



## DEPTARTMENT OF POLITICAL SCIENCE

### Master's Thesis for IAGG

#### **What explains success and failure in Community Based Natural Resource Management? A comparison of Botswana and Zambia**

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## **Abstract**

This study was set out to understand why some African countries succeed in implementing co-management programmes in natural resource management while others fail to do so. This relevant problem is at the center of this thesis and was examined in a comparative empirical investigation of Community Based Natural Resource Management (CBNRM) in Botswana and Zambia. The findings of this study demonstrate that even though Botswana and Zambia developed similar policies and legislations and understanding of the core foundations of CBNRM, the two countries have taken different trajectories in the development and implementation of CBNRM. The study also shows that the success of CBNRM in Botswana has been realized through effective cooperative efforts by the government and the local communities residing in controlled hunting areas. The case of Botswana proves the fact that when the local people are given appropriate incentives, authority and ownership over land and wildlife resources, they could effectively organize themselves in managing and preserving wildlife resources. On the other hand, this study has shown why Zambia has been less successful when compared to Botswana in co-management programmes. CBNRM in Zambia has been less successful because there is lack of political will to decentralize decision making authority and responsibilities over wildlife management to the local communities. Additionally, less attention has been paid to the development of effective local institutions and formulation of legislations and policies that support local community ownership of natural resources.

**Key Words:** Community Based Natural Resource Management, Devolution, Local Community, Common Pool Resources, Community Trust, Community Resource Boards, Controlled Hunting Areas, Game Management Areas.

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## Acronyms

ADMAD	Administrative Management Design
CBNRM	Community Based Natural Resource Management
CBOs	Community Based Organisations
CHAs	Controlled Hunting Areas
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CPRs	Common Pool Resources
CRBs	Community Resource Boards
CTs	Community Trusts
DANIDA	Danish International Development Programme Agency
DLBs	District Land Boards
DWNP	Department of Wildlife and National Parks
GDP	Gross Domestic Product
GMAs	Game Management Areas
GPS	Geographical Positioning Coordinates
GRZ	Government of the Republic of Zambia
IRDBS	Integrated Resource Development Boards
MMD	Movement for Multi-Party Democracy
MOMs	Management Oriented Monitoring Systems
NGOs	Non –Governmental Organisations
NORAD	Norwegian Agency for Development
NPWS	National Parks and Wildlife Services

OAs.....Open Access Areas  
 PF..... Patriotic Front  
 SAC.....Sub-Authority Committee  
 THA.....Tripartite Hunting Agreement  
 IUCN.....International Union for Conservation of Nature  
 UNDP.....United Nations Development Programme  
 USAID.....United States Agency for International Development  
 VAGs.....Village Action groups  
 VDCs.....Village Department Committees  
 WMAs.....Wildlife Management Areas  
 ZAWA.....Zambia Wildlife Authority  
 ZNTB.....Zambia National Tender Board

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## **1. INTRODUCTION AND BACKGROUND**

How can we understand why some African countries succeed in implementing co-management programmes in natural resource management while others fail to do so? This relevant problem is at the center of this thesis and will be examined in an empirical investigation. This chapter gives a background of the problem and formulates the aim for this thesis as well as a number of precise research questions. It concludes by outlining the structure of this thesis.

Beginning in the early 1980s and 1990s natural resource policies for conservation in Southern Africa started receiving criticism for centralizing power and responsibility to manage, protect and conserve natural resources in the bureaucratic state institutions. In most African countries, the increasing threat to biodiversity loss particularly through overexploitation of wildlife in the 1970s and 1980s exposed the failure and inefficiency of several state institutions particularly wildlife departments in managing and protecting wildlife and their habitat. State institution charged with the responsibility to manage wildlife resources relied heavily on a top-down or centralized approach to wildlife management and conservation (Gibbson and Agrawal, 1999). This approach previously known as the Fortress Model of Conservation resulted in the exclusion of the local communities from the resources they had previously owned and relied on for their livelihood (Terborgh, 1999; Songorwa, 1999). This also made the management and protection of wildlife in areas outside designated protected areas and on private land difficult (Hulme and Murphree, 2001). Thus the continuation of the same colonial policies for conservation by the post-colonial African states took away the ownership rights that the local communities previously had over natural resources.

Furthermore, the exclusion of local people through these state policies based on the creation of protected areas, game reserves and national game parks has been challenged for failure to recognize and acknowledge the costs suffered by communities through loss of life, crops and property damage due to wildlife encroachment on their farm land. These policies also meant that the local communities were no longer able to access benefits from natural resources such as wildlife which previously belonged to them before the advent of western colonialism. Many critics of the fortress approach to natural resources conservation have argued that this



approach had collapsed into open access regimes which contributed to the overexploitation of natural resources particularly wildlife (Ibid).

The failure of the centralized approach to natural resource management and conservation gave rise to emergence Community Based Natural Resource Management (CBNRM) in Southern African countries. CBNRM was adopted in Southern Africa as an alternative approach and strategy to natural resource management and conservation. This approach inherently embraced the key principle and ethics of sustainable development which included the need to maintain a balance between economic development goals and natural resource conservation by taking into account the social and economic needs of the people in the local communities. CBNRM placed emphasis on the need to connect the use and management of natural resources such as wildlife with the expected economic benefits from wildlife tourism (Rozemeijer, 2003).

CBNRM is thus a development and conservation strategy based on the idea that the preservation of natural resources is closely connected with rural economic development and sustainable livelihood. Child & Barnes (2010: 283) defines CBNRM as “a process of institutional reform that involves the devolution and clear definition of property rights with collective action in rural communities to improve the value and sustainability of natural resources”. The other important assumption in CBNRM is that if the communities are granted the power and responsibility over natural resources on their own land, they could manage and conserve them in a more sustainable manner provided they generate benefits from their utilization and conservation (Weaver, 2013).

Roe and Nelson (2009a:5) have defined CBNRM as “a term that refers to the local management of natural resources such as land, forests, wildlife and water through, locally established institutions for local benefits”. The conceptual foundation of CBNRM thus includes the following: sustainable utilization of natural resources and the provision of appropriate economic benefits to the local communities or land owners involved in natural resource management and conservation (De Kock, 2010). The other key conceptual foundation is the transfer of user and access rights and management decision from the state over natural resources to the relevant local institutional structures or arrangements (devolution). CBNRM also embodies principle of collective ownership which allows defined groups of people in the community to use and exercise their ownership and access rights over

natural resources based on collectively agreed upon rules, regulation and strategies (Murphree, 2004).

Despite the above highlighted assumptions about CBNRM, the main question that still remains without a clear answer among its advocates has been its success when measured against collective ownership, transfer of user and access rights and management decisions from the state to local institutions. For this reason, CBNRM has been widely and largely contested because of differences in its implementation and varying performance outcomes within and across countries in Africa. Its record regarding its success and failure remains subjective and there is lack of general consensus and awareness with regard to its contribution to development priorities at the national level and conditions under which it could effectively succeed (Dzingirai, 2005).

The main focus of this study however is on CBNRM in Botswana and Zambia and not Southern Africa as whole. Botswana and Zambia share a similar history when it comes to natural resources management and conservation. Both countries previously followed similar a traditional approach to natural resources governance under control of tradition chiefs before the coming of western colonial powers. They also both suffered a similar fate when the colonial powers came in and introduced centralized natural resources management policies and legislation which led to the exclusion of the local people from their traditional land and other natural resources such as wildlife. Furthermore, the post-colonial government in the two countries continued with the same colonial policies for conservation and natural resources management until the early 1980s when they both decided to adopt their first CBNRM programmes with the support of the United States Agency for International Development (USAID). However, even though Zambia adopted CBNRM at the same time as Botswana, the country is still faced with the threat of wildlife depletion due to illegal wildlife poaching and trade. Zambia is also still behind on the process of involving the local communities in natural resources management and conservation. Contrastingly Botswana has managed to emerge as one of the few exceptional CBNRM success stories in Africa and has achieved significant results through the involvement of the local people in management of natural resources such as wildlife resources (Rozemeijer, 2003).

## **1.1 Aim of the Study**

The main aim of this study was to provide further and detailed insights into the factors that explain success and failure in the co-management of natural resource. This study was conducted in particular to provide an understanding concerning the factors that have made Botswana to record relatively better outcomes in CBNRM as compared to Zambia despite the two countries having followed a similar approach to natural resource management and conservation. The outcomes in CBNRM mentioned here range from increased community participation in natural resources management, empowerment of the local community through ownership rights and access rights to the resources, provision of social and economic benefits and improved management and conservation systems. The highlighted study aim and main research question was accomplished by answering specific research questions in the context of Botswana and Zambia.

### **1.2.0 Main Research Question**

- What factors have made Botswana to attain relatively better outcomes in CBNRM as compared to Zambia?

In order to answer the main research question of this study above, the following sub-research questions were developed:

#### **1.2.1 Sub-Research Questions**

- To what extent have wildlife policies and legislations devolved the responsibility and decision authority to manage wildlife to the local people in the community?
- Do wildlife conservation policies and legislations at the national level require and encourage community own land and wildlife resources in protected or controlled hunting areas (CHAs)?
- To what extent are the communities involved in deciding how the benefits (revenue) from community based wildlife conservation and tourism should be distributed?
- To what extent has CBNRM contributed to wildlife conservation in Botswana and Zambia?

## **1.3 Relevance of the Study**

Understanding why some countries succeed and others fail in implementing CBNRM is important for informing public policy. This study was expected to contribute to existing literature on the management of shared natural resource through community based natural management practices. It was also expected that this research would contribute towards policy

making and the development of better strategies for creating sustainable local institutions and the promotion of co-management in natural resource conservation.

### **1.4 Organisation of the Thesis**

This thesis is structured into six main chapters. The subsequent chapters of this this thesis comprise of the literature review, theoretical framework, research methodology, presentation of empirical findings and discussion of results. A precise conclusion is finally drawn from the main discussion of findings in the final chapter of this thesis.

## **2. LITERATURE REVIEW**

There are a lot of studies that demonstrates that the local people are well and better placed to manage, protect and conserve natural resources within their own locality. This study reviewed current and existing literature on the management of shared natural resources commonly known as common pool resources (CPRs) around the world. Common-pool resources are in this case were defined as goods which are available for all to consume and to which no one can be excluded and that their consumption could only be limited at a high cost (Ostrom, 1990).

### **2.1 Definition of Success in CBNRM**

Before discussing what kinds of elements are important for success in CBNRM, it is important to define what success meant is in this case. Defining success in CBNRM differs from author to author. According to Roe et al. (2009a:9), success in CBNRM is seen when “the local communities’ livelihood is improved and natural resources such as land, forests and wildlife are effectively managed and utilized sustainably without overexploitation and depletion”. Others look at CBNRM as being successful when the local community takes control of high value utilization of a resource both in terms of income generated and other associated benefits from the utilization of a resource (Löwegren, 2013). CBNRM can also be deemed successful when the local people are granted ownership or tenure rights over the resource on their land (Fabricius and Collins, 2007; Anderson and Mehta, 2013). Boudreaux and Nelson (2011:7), view CBRNM to be successful when “the management of natural resources by the local community produces positive results in terms of rural development”. Rural development in this case includes things such as improved local infrastructure such as roads, schools, hospitals, good water and sanitation systems), reduced poaching of wildlife,

recovery and stabilization in wildlife species population and improved governance of locally established institutions (Measham and Lumbasi, 2013).

For Campbell and Shackleton, (2001), CBNRM is successful when “the local people in the community are encouraged to participate the in decision making activities or processes regarding when to use and how to use natural resources”. In this study the definition of success in CBNRM by Roe et.al. (2009) was adopted as it makes it clear that that success could only be attained when conservation and rural development goals are achieved at the same time.

## **2.2 Previous Research**

Scholars, such as Boggs (2000), have postulated that the management and conservation of natural resources through a top-down approach using state institutions, has been inefficient and ineffective in natural resources conservation in the recent past. Therefore, the only solution to this problem is transfer of authority for managing natural resources to the local community in order to promote sustainable utilization of natural resources. Accordingly, Mbaiwa (2011) argues that devolution of the powers and responsibility to manage natural resources should be seen as a solution to the severe decline in wildlife species and depletion of natural resources which occur as a result of the inefficiency of the central government in natural resource management. Devolution of natural resources management in this case entails, the redistribution of authority and transfer of responsibilities from the state institutions to the local community who reside side by side with natural resources (Boggs, 2000). This shift in the balance of power and responsibility is perceived to have the potential to increase community access, power and control over natural resources among the local community. It is also said to have the potential to improve the attitude of people within the local community towards sustainable utilization of natural resources and that it contribute to increased economic and social benefits such as employment and poverty reduction in the community (Scott, 1993).

According to Mbaiwa (2005), one of the expected benefits from community based conservation and management is that it allows for an equitable and more democratic treatment of the local communities compared to the fortress approach to conservation. He further points out that this approach to natural resource management and conservation changes the way people in the local community looks at wildlife and make them realize the importance of their support and participation in managing and preserving it. This argument has also been widely

echoed in studies that have highlighted empowerment of the local communities as the most significant success factor in community based wildlife management and conservation (Kull, 2002).

Other scholars have highlighted the importance of partnership among the local communities, NGOs, private sector and government as another key ingredient needed to ensure the success of CBNRM. Tsing (2005) for instance argues that, the empowerment of the local communities can only be understood in the context of interaction between the people at the local level and other stakeholders in natural resource management. In this case the success of any CBNRM programmes cannot be understood without understanding the role of the state, private sector and NGOs and the relationship that exists among them and the local communities. Bleike (2006), similarly states that there is need for greater interaction among NGOs, the state and participating communities for CBNRM to be a success. Taylor-Ide and Taylor (2002) have also highlighted the need for a three-way kind of partnership among the local communities (from the bottom-up), state authority (top-down) and NGOs and other relevant stakeholders (outside-in).

Previous research has also highlighted the importance of the transfer of decision making powers and responsibility over natural resources from the state to locally established institution. A study in Nepal revealed that the capacity of the local community was undermined due to lack of devolution of authority and responsibility to issue property rights (Bawa, 2007). Salam et al. (2006), similarly found that the government in Thailand had been supporting sustainable management of forests for almost 100 years but does not support and recognize the local community in forest management which has led to lack of local institutionalization and devolution at the local level.

In another study in Tanzania enhanced capacity of the local communities was found to be effective in monitoring of natural resources and enforcement of rules, regulations and agreed upon sanction by the community. For example Holmern et al. (2007), found that village scouts were effective in apprehending poachers but were still affected by lack of financial resources and insufficient support from the state law enforcement agencies in Tanzania. In this case for community based wildlife management programmes to be effective, the local community should have wildlife monitoring strategies to be able to keep in check a sustainable level of resource harvest (Du Toit, 2002).

Furthermore, CBNRM as a model for conservation requires a win-win situation where both conservation and development goals are achieved simultaneously. For a community based conservation Programme to be a success, active participation from the local community is needed and the benefits for participation in the programme to the local community must be clearly stipulated. The problems caused by lack of community participation have been documented and are disastrous. Many studies have found a direct relationship between local community attitudes towards natural resource conservation and the expected material benefits to the community (Berger et al. 2004; Baral and Gantam, 2007). A similar study in Nepal found that the local communities were willing to lose their livestock in a bid to conserve the population of tigers provided the benefits from trophy hunting were distributed to the community in a fair manner and that they were granted the rights to own land (Romanach et al. 2007).

On a similar level Shepard et al. (2010), evaluated a community based wildlife management Programme that was initiated by the local community and their traditional chief in Ghana in order to protect the Hippopotamus and recover their dwindling population. This Programme was found to be among the few success stories of wildlife conservation programmes in Africa. Sheppard et al. (2010), identified community participation and equal distribution of benefits and local community empowerment as some of the factors that defined the success of this Programme. The Programme led to stabilization in the population of the hippopotamus and also contributed to increased community benefits in terms of infrastructural development and increased control and access to natural resources.

Finally in Mozambique for instance, Solomon (2000) concluded that although community based wildlife management was embodied in legislation and policies, there is little and lack of implementation and lack of devolution of decision making authority and responsibility to manage and conserve wildlife to the local community. Lack of decentralization has been associated with challenges relating to governance such as institutionalized corruption as the main constraint affecting the transfer of decision making authority over natural resources to the local communities (Anstey, et al. 2002).

In summary, previous research has shown some of the factors that seem to predict success and failure in CBNRM. These success factors include the following: transfer decision making powers over natural resources (devolution), ownership and user rights, community

participation, equal distribution of benefits, partnership between the local communities, private sector and government. Therefore the absence of all these factors in the implementation of CBRNM should be expected to predict and explain failure. Thus this study focused on investigating whether these same factors could help us understand why Botswana has relatively succeeded in CBNRM as compared to Zambia.

## **2.3 Theoretical Framework**

The growing global concern about over exploitation of natural resources, depletion and environmental degradation has led to a rapid growth in literature on the management of common-pool resources. Failure by the state in the management of CPRs in this regard has made the local community to seem as an effective alternative actor in the management of common or shared natural resources (Ostrom, et al. 2002). Common-pool resources refer to the type of good which are available for all to consume and to which no one could be excluded and that consumption can only be limited at a very high cost (Ostrom, 1990). Some examples of resources that are considered as CPRs include fisheries, wildlife, forest, river basins and oceans. The characteristics of CPRs are said to create a social dilemma in circumstances where actors are motivated by their selfish desire to maximize their individual benefits leading to outcomes that are not in the long term interest of anyone (Ostrom, et al. 1999). Hence, when resource users harvest without formal rules and regulations limiting access, clear rights, duties and responsibilities, free riding is likely to occur in two ways; firstly there will be over exploitation of the resource without considering the impact that such extraction has on other users of the resource. Secondly, there will be lack of commitment to the maintenance and preservation of the resource itself (Ostrom et al. 1994).

Early scholars on the governance of common pool resources such as Hardin (1968), in his article “the tragedy of commons” argued that “the only way through which the commons could be sustained over an extended period of time is through a two state-established institutional arrangement, which is central government control and private property regimes (1968:2)”. He further argued that the users of common resources are trapped in a common dilemma and each one of them is forced to maximize his benefits without limits and thus not able to find the solution to the commons problem. The end result in this game is over exploitation and depletion of the common resource (ibid).



Different scholars focusing on the governance of the commons have however criticized Hardin's claims by highlighting the fact that, private property regimes and central government control have not been efficient in preventing the depletion of common pool resources. Among such scholars are Ostrom (1990) and Bromley (1994), who have argued that natural resources could be used in a sustainable manner provided that certain principles are followed and applied and that these principles include autonomy and recognition of the local resource users and tenure rights for local institutions. This requires the establishment and enforcement rules and appropriate incentives in the form of benefits that far exceeds the perceived costs for preserving natural resources (ibid). When these principles are combined together they can result in the full redistribution of power and responsibilities from the central government to the local lower community levels. Ipara et al. (2005), similarly stress that for this redistribution of power to achieve meaningful results in wildlife conservation, it should be accompanied further by tangible benefits to the local users as well as secure property rights to land, wildlife resources capacity building and improved livelihood for the local people. In order to manage CPRs effectively in this case, resource users need to be committed to how the resource is used and should respect the rules and regulations that impose restrictions on the extraction of the resource.

Furthermore, Ostrom et al. (1999:279) state that "external authorities must deliberately formulate and monitor and enforce the rules that impose restrictions on who should use the resource, how much and when that use should be allowed, create and finance formal monitoring arrangements and establish sanctions for non-compliance". Dietz et al. (2003:1909), similarly state "that the design of such rules and regulations must be followed by all resources users and that imposing appropriate punishment on those that fail to comply could be effective in managing CPRs".

Pomeroy and Berkes (1997), state that CPRs cannot be managed effectively without active participation and partnership between resource users and the State. Both actors would realize the benefits if they effectively cooperate in a co-management arrangement. For example the resource user would benefit from the fact that the state makes sure that other resource users abide by rules and regulations that regulates resource extraction. As a result natural resources would be managed in a sustainable manner for the long benefit of everyone (Sjostedt, 2014).

It was therefore expected that for CBNRM to succeed, the state need to relinquish some of its powers and authority over natural resources to the local communities. The local communities in this regard should be given rights to ownership over land and other resources such as wildlife and be recognized as direct beneficiaries of natural resources in their area. This requires the establishment of independent local institutions and appropriate incentives that could enhance community participation and commitment in the management and preservation of natural resources. The state could facilitate this through the adoption and implementation of legislation and policies that provide an enabling policy and legal framework for co-management of CPRs.

### **3. RESEARCH DESIGN AND METHODS**

#### **3.1 Case selection**

This was a comparative case study of CBNRM in Botswana and Zambia. These two countries were selected for the purpose of this study because they share a lot of things in common when it comes to their history, geography, ecology and their political and state institutions. Both are land locked countries located in the heart of southern Africa and share the same border. Zambia and Botswana share the same colonial legacy as both countries are former colonies of Great Britain and got their independence in the in the early 1960s (Mupeta, 2012). They are also both democratic republican countries and hold regular elections. Both Zambia and Botswana are heavily endowed with a diverse of wildlife and other natural resources'. For instance Botswana's protected areas cover up to 37.19% the total country's landmass while Zambia's protected areas take up 37.78% of the country's total land area. In both countries wildlife is the biggest spotlight in the tourism industry and over 90% of the tourists come to see wildlife animals, however this is not a precondition but rather a main feature of policy (Mbaiwa, 2011).

These two countries also adopted CBNRM initiatives more than two decades ago and were financially supported by USAID and the main focus was on wildlife conservation. Both countries adopted similar wildlife conservation policies and legislation along with the CBNRM model in the 1990s. They also established state and local institution for managing wildlife. In both countries CBNRM is implemented through community based organizations called community trusts (CTs) in Botswana while in Zambia, they a called community resource boards (CRBs). Thus, this the most similar design for these two countries that have a

long experience with CBNRM and share a lot of features in common. These counties only differ in terms of micro economic factors such as gross domestic product (GDP) and demographic factors such as the population size. Nevertheless, in as much as comparisons of similar elements in a study like this one are significant, it is imperative that there exist some variations in the selected cases. This is important as it enables the researcher to design a rich analytical comparative study (George and Bennet 2005).

### **3.2 Research Design**

The research design adopted for this study was a comparative case study of CBNRM in Botswana and Zambia. This method was chosen because it suitable for comparing similar cases within and across time and context. This a good design for a study such as this one which requires a better understanding of how different features within specific contexts have affected the success of programmes or policy interventions. This method allows the researcher to analyze and also identify differences and similarities between two cases that share a lot of characteristics in common (Goodrick, 2014: 1). This design was also suitable for answering the type of research question which was posed in this study as it helped me to identify the key factors that explain the differences in the outcome of CBNRM in Botswana and Zambia. This information is very important when it comes to identifying specific measures that should be adopted to produce desirable outcomes from a programme or policy initiative like CBNRM. This is what differentiates this research design from other research designs such as experimental and quasi-experimental design as it allows a research to repeatedly develop sequences based on various propositions, synthesis and collection of empirical evidence (Goodrick, 2014: 2). However, the main limitation of this research design is that it is difficult to make generalization to other cases where context and geography aspects matters more.

### **3.3 Data Collection Procedure**

In this study data was drawn from a triangulation of various secondary sources of data. In this study I made use of different sources of secondary data that assess the performance and status of CBNRM in both Botswana and Zambia. Triangulation of different sources secondary information was done in order to avoid bias and representation of single voice with its own agenda. According to Merriam (1998:70) “the technique of data collection adopted in any study is determined by the researcher’s theoretical orientation or know how, the aim of the study and the problem of the study”. To achieve this I conducted an extensive review of

existing status reports and publications produced by state and non-state actors such as NGO reports and peer reviewed scholarly articles and expert reports on CBNRM in both countries. Government policies and legislation relating to CBNRM were also analyzed in this study. The collected documents were later summarized and critically analyzed. I was thus able to obtain and read all these documents in their original form. This was done to get the historical context of CBNRM in both countries. This also enabled me to compare and identify the differences and similarities that exist between the two countries in terms of their institutional arrangements in natural resource governance and their performance outcomes in CBNRM. One of the main important advantages of using documents as data is their stability. When compared to other methods such as interviews and participant observation, the presence of the researcher does not affect what is being investigated. This is good for the ensuring reliability of the study. However, the disadvantage of using official documents is that we do not whether what is written on paper is enforced in practice or actually implemented (Merriam, 1998: 126).

### **3.4 Data Analysis**

In this study I employed qualitative content analysis of text from various secondary sources of data. This method of data analysis was chosen in order to uncover the underlying factors explaining the differences in the outcome CBNRM in the two countries. I analyzed large quantities of data by organizing them into major themes developed through thorough review and analysis of different texts. The theoretical framework developed in the theory section was be used to analyze the results for this study. This method of analysis is objective as it allows the researcher to define clearly themes or categories to apply to the data being analyzed (Bauru, 2000). Using this method of data analysis, I was able to translate large volumes of data by categorizing them into major themes outlined in next chapter of this thesis. Based on the developed theoretical framework, I was able to identify key variables which I used as my initial coding categories. The operational definitions for these variables were derived from the developed theoretical framework. This method of analyzing data is suitable for this type of study as it allows the researcher to provide evidence that either supports or refutes existing theory (Hsiu- Hsieh and Shanon, 2005).

### **3.5 Operationalization of Variables**

Success of CBNRM in this study was looked at in terms of effective management and sustainable use of natural resources by the community. Sustainable use in this study refers to

what Roe et al. (2009a:9) describes as when “the local communities’ livelihood is improved and natural resources such as wildlife are effectively managed and utilized sustainably without depletion or complete loss of biodiversity”. This was measured by looking at management and conservation strategies adopted in CBNRM in both countries. Success was also measured by looking at the impact of CBRNM on wildlife populations, their recovery and also the benefits the community realize from wildlife utilization and conservation in terms of rural development. Success in CBNRM in this study was thus explained using the following explanatory variables: transfer of decision making authority and responsibility to manage wildlife, ownership rights to the resource such as land and wildlife, decision making rights over the distribution of social and economic benefits from CBNRM, CBOs organisation (institutional capacity) and community participation and support for wildlife conservation (Community Policing and monitoring). All these explanatory variables were used to assess how Botswana and Zambia have performed in CBNRM particularly in wildlife management and in enhancing the livelihoods of the local people. The above explanatory variables for CBNRM were operationally defined and measured as follows:

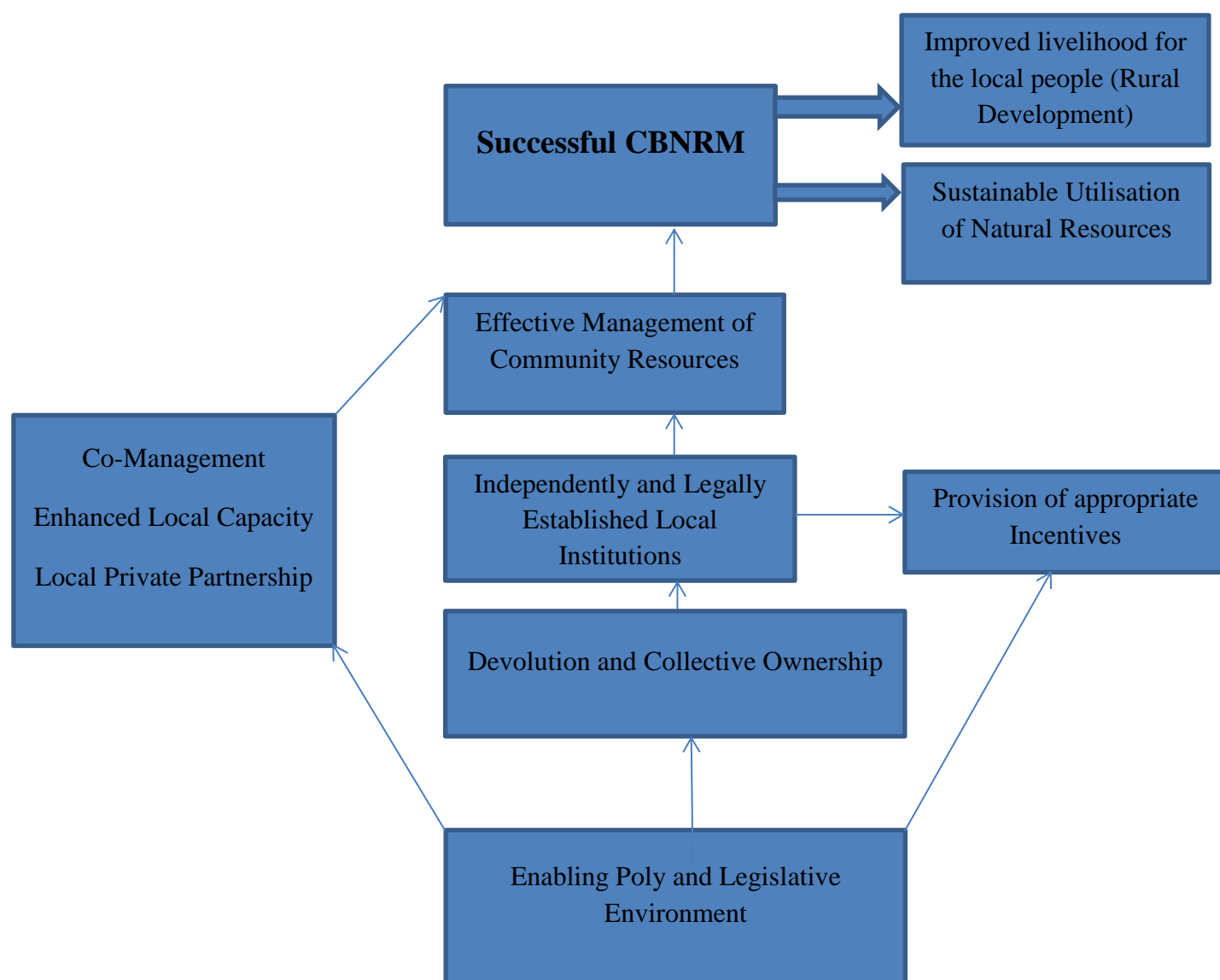
*Devolution* – Transfer of some of the state’s authority and decision making powers over a resources to locally and independently established institutions.

*Collective Ownership* – Does the state allow and encourage the local communities to define themselves and give them the rights to own resources and decision making power and control with regard to when and how to utilize resources?

*Revenue Sharing Arrangement* – Does the state allow the local communities to retain 100% of the income generated from resource utilization? Or is there any sharing arrangement between the state and the local institutions involved in CBNRM?

*Organisation of Local Institutions* – are community based organisations for CBRNM democratically and independently established? (Anna et al. 2007).

### 3.6 Analytical Framework for Successful CBNRM



### **3.7 Limitations of the Study**

Using secondary data, the researcher was limited by other peoples' focus. Having primary data, the researcher could tailor the data according to his or her own interest. I initially wanted to supplement the secondary data with data from interviews with key informants but I was not able to do so due to the poor response I received from the people I expected to be my key informants in this study. It took almost two months writing emails and making telephone calls but this did not however yield any positive results.

## **4. PRESENTATION OF RESULTS**

This section presents empirical results from document review which included the review of legislation and policy analyses in Botswana and Zambia, published articles, existing NGOs' CBNRM status reports and government reports from 2005 to 2015. This section starts with the contextual and historical discussion of CBNRM in both Botswana and Zambia starting from the pre-colonial, colonial and post colonialism (Classical paradigm of natural resource conservation) and the rise of CBNRM. It further goes on to present empirical results on the actual implementation of CBNRM and the actual outcomes in both countries.

### **4.1 Historical Context of Wildlife Management and Conservation in Botswana**

#### **4.1.1 Pre-Colonial Period**

Botswana is among the few countries in Southern Africa that is still heavily endowed with abundant natural resources, particularly wildlife, birds, insects, forests, fish, reptiles and many other living things. During the pre-colonial period, wildlife resources played a significant role in sustaining the livelihood of the local people in the early traditional society of Botswana. Wildlife provided the local people with game meat, animal skins and fur for their clothing among many other things. During this period, natural resources were traditionally and communally owned and controlled by the local people under traditional leadership. The sharing of their utilization among all members of the community was an important norm in the local traditional culture of Botswana. Local community stewardship and collective ownership made sure that no single member of the community maximized individual benefits from resource utilization at the expense of the entire community. As a result, the communities themselves took control of their own resources through traditional leaders and communal policing (Child and Barnes, 2010).

#### **4.1.2 Colonial Period**

This period in Botswana was characterized by centralized control on natural resource management and continued throughout the post-colonial time. The advent of Colonialism and European trade in Botswana between the period 1885-1996 largely affected access rights to natural resources especially wildlife and altered the role of locally established institutions for natural resource management and conservation. One of the key laws that were adopted during this time was the Bechuanaland Protectorate Game Proclamation of 1925. This law particularly called for the establishment of national parks, game reserves and wildlife sanctuaries aimed at protecting wildlife species within areas designated as protected areas (PAs). It is this law that established national game parks such as Gemsbok National Park, Chobe Game Reserves, the Kalahari Game Reserves and the Moremi Game Reserves. The British colonial Government also reorganized games areas into three categories, the royal game, and small game and large games respectively (Taylor and Murphree, 2007). As a consequence, this proclamation law centralized the control and management of natural resources particularly wildlife in Botswana. The creation of national parks and protected areas displaced the local people and robbed them of their ownership rights over land and wildlife resources which previously belonged to them before the coming of British colonialists (Bolaane, 2004).

#### **4.1.3 Post-Colonial Period**

After gaining independence from Great Britain in 1966, the post-colonial government in Botswana decided to continue with the same colonial policies that centralized the control and management of natural resources. During this period, the post-colonial government of Botswana adopted the Fauna Conservation Act No.47 in 1979. This legislation abolished the system of having separate regulations for each tribal area and combined them into a single set of rules and regulations which were going to be applied through the entire country (Mbaiwa, 2005). The main purpose of this Act was to control and regulate licensing procedures for hunting. As result centralization of natural resources further distorted the relationship between the local community and the state. Loss of access to land, hunting and gathering rights led to the decline of traditional local institutions and created hostilities among the local people towards government and conservation in the 1970s and 1980s (Mandota, 2011). Hunting wild animals for subsistence and livelihood purposes was now considered as illegal hunting because it did not fall within the newly adopted approach to wildlife utilization. Thus, both



the colonial and post-colonial periods in Botswana were characterized by depletion in the natural resource base (Mbaiwa, 2011).

#### **4.1.4 The Emergence of CBNRM in Botswana**

CBNRM was initiated in Botswana in the late 1980s, a period when the management of natural resources especially wildlife by the central government was experiencing frequent and sharp decline. The central control of natural resources by the state Botswana had excluded the local communities from natural resources which they previously owned and controlled. This shift from traditional approaches to natural resource management and conservation to central control by the state had serious consequences. CBNRM was therefore adopted as an alternative conservations strategy aimed at addressing all these problems caused the state centralization of natural resource management and prevent further decline in the natural resource base (Mbaiwa, 2011).

The first CBRNM Programme in Botswana was officially initiated and launched in 1989. This Programme was initiated by the government of Botswana with support from USAID. To spearhead this Programme, the government of Botswana and USAID launched what was called the Joint Natural Resource Management Project under the Department of Wildlife and National Parks (DWNP). CBNRM in Botswana was adopted after the realization that preservation of natural resources such as wildlife could be easier and possible with the reintroduction of active participation and support from the local communities living in conservation designated areas such as controlled hunting areas (CHAs) (Johnson, 2009).

#### **4.1.5 Policy and Legislative Framework for CBNRM in Botswana**

Before the introduction of CBNRM in Botswana, the local people residing in wildlife designated areas did not have access rights to land for tourism development. It is the wildlife conservation policy of 1986 and the tourism policy of 1990 that set the foundation and basis for the development of CBNRM in Botswana. The wildlife conservation policy of 1986 was the blue-print for the reintroduction of community participation in wildlife management and conservation through the implementation CBNRM in Botswana. This policy was formulated in order to facilitate the implementation of tourism projects aimed at promoting economic development in rural areas. This policy also acknowledged and recognized the potential benefits that consumptive and non-consumptive utilization of wildlife resources could have for the local people living side by side with natural resources. Through the wildlife conservation policy of 1986, land in game management areas (GMAs) was demarcated and

subdivided into small landholding called controlled hunting areas (CHAs) in order to enable the local community to own land and actively participate in the development of CBNRM (Blaike, 2006).

The government of Botswana under the Ministry of Tourism and the Department of Wildlife and National Parks (DWNP) did this by earmarking CHAs for certain local communities. Thereafter, the local communities were required to register their community based organization (CBOs) in order for them to obtain leases for CHAs. The Department of Land and Land Boards were established for this particular purpose in Botswana. As a result, CBOs in Botswana are granted user rights and resource management authority over CHAs through leases which are designed to run for a period of 15 years. The CBOs decide on the type of tourism activities or business to embark on when the lease for CHAs is finally out. In this case the CBOs can either decide to use CHAs for hunting or photographic tourism (Rihoy and Maguranyanga, 2007).

CBOs can also chose utilize CHAs and wildlife quotas as follows: (a) community management of CHAs (b) sub-leasing of their user rights for the resource to private safari companies at a fee or (c) they can decide to enter into a joint venture partnership with a safari company through shareholding. The demarcation of wildlife areas in this manner demonstrates the willingness on the part of the government of Botswana to return to local ownership and custodianship in natural resource management. These reforms in resource use particularly access to land and associated natural resources should be seen as a form of empowerment to the local community in Botswana (Poteete, 2009).

The tourism policy of 1990 is another policy that has provided an enabling environment for the development and implementation of CBNRM in Botswana. In this policy, tourism is seen as one of the key drivers of economic growth and economic development. This policy calls for the diversification of the country's economy and supports a shift from heavy reliance on diamond mining to the promotion of tourism development. This policy also recognizes the importance of community support and participation in the development of the tourism in rural areas. This policy supports equitable and fair distribution of direct and indirect benefits from both trophy hunting and photographic tourism to the local communities for them to appreciate the importance and value of sustainable use, management and conservation of wildlife in their areas. This policy also calls for the creation of employment through tourism to enable the

local people generate income and also prevent rural-urban drift and stimulate the provision of essential services such health and education in remote rural areas of the country (Mbaiwa, 2013).

Another milestone in the development of CBNRM in Botswana was the enactment of the Wildlife Conservation and National Parks Act of 1992. This Act makes provisions for the protection, conservation and use of wildlife in areas that are not designated as protected areas. The killing and hunting of wild animals such as elephants and rhinos is strictly regulated under this Act (Johnson, 2009). Nevertheless, the hunting of wildlife can be carried out in WMAs and CHAs provided the hunter has a hunting license or permit. These licenses include small game licenses, single game license and special game license and the minister's license all of which are only given to citizens of Botswana. This Act also makes provisions for land owners to hunt animals that are not protected or that are partially protected on their own land without a hunting license or permit. The land owners are also allowed under this Act to impose fees on external resource users with the approval of the director of wildlife. The only requirement in this case is that all land owners must keep records of all the wild animals killed and submit these records annually to the licensing authorities. The land owners are also granted the rights to establish game ranches or farms which give them exclusive rights to hunt or capture wild animals on their land (Mbaiwa, 2008).

The development of CBNRM in Botswana was further supported through the adoption of the CBNRM policy of 2007. This policy was an outcome of many years of hard work by the Ministry of Environment, Wildlife and Tourism, working closely with relevant stakeholders such as NGOs, local communities and actors in the private sector. Before the adoption of this policy, CBNRM was functional without a specific policy framework to guide it. However, prior to the adoption of this policy, CBNRM was facilitated through the already discussed policies and legislations. As a consequence, the power relationship between the state and the local people and personal interest dynamics within the local community had negatively affected the welfare and interests of the wider local community (Masilo-rakgoasi, 2008).

The CBRM policy of 2007 recognizes the fact that the local people who live side by side with the natural resources generally bear the greatest costs associated with conservation. Thus, this policy stipulates that given proper recognition, awareness and appropriate incentives, the local communities are more likely to benefit from conservation of natural resources within their

own environment. It also states that, for the local communities to actively participate in natural resources management and conservation, the benefits of conservation must far exceed the costs associated conserving the particular resource. The main aim for adopting this policy was to provide the local communities with appropriate incentives for sustainable utilization, management and conservation of wildlife resources (Lindsay et al. 2007).

#### **4.1.6 Nature of Devolution in the Management of Wildlife Resources in Botswana**

The ownership and custodianship aspect of natural resources management has played a significant role in the development of CBNRM in Botswana. This though requires the transfer of decision making authority over land and other natural resources such as wildlife from the state to locally established institutional arrangement. In Botswana, local communities encouraged to participate natural resource management through establishment of community based organizations (CBOs) known as Community Trusts (CTs). These CTs provide local leadership to local level institutions of CBNRM. CTs also provide coordination in tourism activities on behalf of their respective communities. The functioning of CTs is guided by a locally formulated constitution which dictates on issues relating to membership, duties and responsibilities and the organization of each CT. All members of the local community above the age of 18 years are automatic members of CTs in their locality. In this regard, administrative duties of CTs are executed by the Board of Trustees (BTs) who work hand in hand with local traditional chiefs (Mbaiwa, 2011).

The Board of Trustees is the supreme board of the CT whose members are democratically elected during a public meeting known as Kgotla after every 2 years. The board of trustees is responsible for handling and managing all the affairs of a CT on behalf of the people in the local community. These affairs range from signing of legal documents such as leases and business contracts with private safari companies and the maintenance of close contact with Trust's legal officers. These legal officers are employed and paid by CTs and responsible for providing such services as writing of constitutions and contracts. The Board of Trustees also maintains and keeps records for CTs which include financial accounts and reports which they are required to present during the annual general meeting. Additionally, to be considered credible legitimate all CTs are required to embrace traditional authority represented by chiefs and village department committee members (VDC) who permanent members of the Board of Trustees (Anderson and Mehta, 2013).

#### **4.1.7 Nature of Resource Tenure Rights and Ownership in Botswana**

Despite the government of Botswana retaining all ownership rights over wildlife resources, the local communities have the opportunity to obtain wildlife quotas in CHAs given to them through various policy directives. In most cases, rights are often sold to safari enterprises. These rights can be traced as far back as 1986 in Botswana when the wild life policy subdivided wildlife management areas (WMAs) in CHAs that could be designated to CBOs through District Land Boards (DLBs). In Botswana CTs are given 15 year leases for their respective CHAs. Through these leases the local communities are given management authority and user rights in their designated CHAs during the stipulated time period (Collomb, et al. 2010).

The local communities through their various CBOs have three options to make in managing in managing CHAs. These options include sub-leasing of wildlife resource utilization to safari companies, community management and joint partnership with the tourism companies. Nevertheless, the sub-lease arrangement is the most common among these due to lack of skills and expertise and the needed capital by the local to effectively run tourism activities barely on their own. Furthermore, the local communities can enter into partnership with local safari companies in the ownership and management of tourism. The local communities also have rights to extract veld products (food, medicine, oil, insects and plants) on communal land as long as they possess a license to do so. The local communities are also given user and commercialization rights for these veld products and wildlife resources through the lease agreements signed with District Land Boards (Anderson and Mehta, 2013).

In addition, CBOs in Botswana previously retained all the revenue generated from wildlife tourism and made all the decisions regarding the distribution and use of it. However, the CBNRM policy of 2007 reversed this as it requires CBOs to return 65% of all the revenue generated from wildlife tourism to a national trust fund. All the revenue deposited in this trust fund is used to support other CBOs throughout the country. However, the CTs are allowed to apply back for it. This revenue sharing arrangement has nevertheless been criticized as it is now seen to break the link between input and output of CBNRM activities in Botswana. This centralized formula for revenue sharing has also been criticized as it conflicts the logic of CBNRM and weakens the motivation for conservation and negatively affects the empowerment of the local communities (Poteete, 2009).

The demand for application for the trust fund income also entails loss of autonomy for CBOs as they are required to meet the conditions set by the government for use. The sharing arrangement of income from CBNRM was reversed by the government of Botswana after the realization that most of CBOs across the country were misappropriating income generated from wildlife tourism. The Board of Trustees were also misappropriating funds the local communities of this income (USAID, 2014). Despite this, the demarcation of wildlife resource rich areas for the purpose of CBNRM still demonstrate a significant return to stewardship and custodianship of natural resource management to the local communities.

In Botswana, devolution and effective governance of natural resource has therefore been realized through the formulation of effective legislation and policies which support the granting of tenure rights to the local communities to own land and exercise a considerable level of authority over wildlife resources through their respective CBOs. CBOs allow the local communities they represent to participate and realize benefits from tourism activities in their own areas. CTs also decide on how land and wildlife resources should be used in their designated CHAs. Through collective action, the local people in Botswana have established effective local institutions to ensure community participation in the management of wildlife resources and tourism development (Mbaiwa, 2013).

#### **4.2.0 CBNRM Benefits and their Distribution in Botswana**

In Botswana benefits realized from CBNRM can be put into three main categories and these include individual benefits, social and financial Services and community benefits (Arntzen, 2007). In Botswana individual benefits from CBNRM have produced positive impacts on the individual households and their livelihood in areas where it has been effectively implemented. These individual household benefits include income earnings and the creation of employment opportunities for the local people. Employment is one of the key benefits that the local communities receive from CBNRM projects. For instance in 2011 and 2012 respectively, a total number of 610 local people were directly employed in 14 CBOs out of 45 CBOs. Additionally, in 2008 more than 8000 people from the local communities around the country were employed in a number of CBNRM projects. Johnson (2009), also reports that a total number of 629 local people were employed between 2009 and 2010 in CBNRM project in Ngamiland district of Botswana. This estimate of 8000 people being employed in CBNRM projects represents such a huge number given the fact that most of the programmes are implemented in remote rural areas of Botswana where the population is largely small and the

presence of industrial enterprises that are supposed to provide employment to local the people in these rural areas are non-existent (Schuster, 2007).

Wildlife based CBOs in both Chobe and Ngamiland districts of Botswana for instance have g created employment opportunities for the local people. In these two districts employment has been provided by CTs and safari companies operating on communally owned land. CBOs in Botswana also reinvest the money generated from safari hunting through sub-leases in business ventures such as lodges and game camps (Mbaiwa, 2011).

#### **4.2.1 Cash Revenues and Game Meat Benefits**

In Botswana, individual cash revenue is distributed in the form of household dividends. Since the year 2005 to date income for households has been generated from joint venture partnerships. These house dividends are distributed after approval by the CTs at an annual general meeting. Individuals and Households in CHAs also receive benefits from the proceeds of safari hunting. For instance, meat from preferred wild animals such as impalas, buffalos and kudu are given to the local people residing within CHAs and the remainder of the meat is auctioned (Child et al. 2010). Meat from wild animals such as elephants, baboons and other animals that are less preferred is given to the local people especially the homeless and poor free of charge. Game meat is the most preferred household benefit from CBNRM by the local people in Botswana when compared to other benefits such as employment and house hold dividends. Thakadu (2005) also reported that the majority of the local people (52%) prefer game meat to other benefits in Botswana.

#### **4.2.2 Benefits to the Local Community**

In Botswana CBNRM projects have generated revenue from different sources and some of these include revenue from photographic tourism such as game drives, food and beverages and accommodation through lodges and game camps, land rentals, production of art crafts, walking safari, meat sales, donations and vehicles for hire. For instance, between the period 2006 and 2010, the government of Botswana raised as much as P 70, 552,685 (\$6,651,763) from various CBNRM activities respectively. Furthermore, P 35, 517, 534 (\$3,348,621) was generated by CBOs from CBNRM projects between 2011 and 2012 (Mbaiwa, 2013). This is clear indication of success in CBNRM in Botswana as most of the CBOs generate huge sums of income. Just in Ngamiland district alone CBOs generate over 80% of the revenue from CBNRM and most of these CBOs were an unable to receive obtain this amount of income before the adoption CBNRM in Botswana (ibid). According to the USAID report (2009),

trophy hunting raises more revenue as compared to photographic tourism. For example between 2006 and 2009, it raised about P 33,041,127 (\$3,115,143) compared to photographic tourism which only generated about P 4,399,900 (\$414,826).

#### **4.2.3 Provision social and financial Services**

Various surveys on CBNRM activities in Botswana have demonstrated that CBOs throughout the country contribute to the provision of social services in the local communities which include and these include the provision of micro finance loans schemes, housing for the homeless, scholarships and funeral assistance grants. For example CTs provide funeral assistance in form of cash amounting to P 3000 (\$284) to members of the household who experience death of house member under the age of 16 years old (Mbaiwa, 2008). On the other hand, microfinance loans are given to the local community members through applications made to a local committee which reviews them and make recommendations to the Board of Trustees of a particular CT based on the viability of the submitted project proposal from the local community members. Additionally some of the income generated from joint venture partnership is given to the old people and physically and mentally challenged people in the local communities. However, the amounts of income given to the local communities differ from year to year based on the number of old people and physically and mentally challenged people in the community. These payments are received by members of the communities two times each year (Schuster, 2007; Johnson, 2009).

Furthermore, the local communities in Botswana benefit from various assets that have been accumulated by CBOs from the effective implementation of CBNRM in their CHAs. For instance, many CBOs have purchased a number of vehicles with revenue raised from CBNRM projects and are used for various activities ranging from the collection of fire hood, transport and funerals. The members of the local community can also hire these vehicles to carry their goods. The availability of these vehicles has eased challenges relating to transportation for the local people and also increased the accessibility of remote areas to the big regional centers in the inner cities of the country. These vehicles have become a significant and reliable source of transport for many rural areas. They are used for business purposes such as carrying construction material and also for emergent medical services in the local communities. Income generated from CBNRM is also used to purchase equipment such as computers, phones, radios, television and internet in order to enable the local communities



to have access to information regarding what is happening in within the country and around the world (Mbaiwa, 2011).

The introduction of modern computer technology, internet, television and radios in remote areas of Botswana is seen as a step in the right direction where information technology is concerned as it provides information to the local communities about the current affairs not only within Botswana but also around the globe. For instance, some CBOs in the Okavango Delta have even established offices to coordinate local community processes and also provide marketing services for their own tourism related businesses. These coordination centers have become significant social institutional arrangements through which the local communities in Botswana are able to express their sense of pride and also participate in mainstream tourism activities. These centers are also seen as means of engaging with customers and many other service providers (Mbaiwa, 2013).

Additionally, before the adoption CBNRM in Botswana most rural communities had poor sanitation. But now most of the participating rural communities in CBNRM have proper water reticulation systems financed with income generated from CBNRM. In Botswana sanitation has been a major challenge and the government has been in most cases failed to meet the demands of the local people when it comes to the provision of safe water for drinking. Therefore, most of the rural communities in the country using income generated from CBNRM have drilled water bore holes, bought water pumping engines in a bid to ease the challenge of water shortage and sanitation. This has been a big score for CBOs in Botswana and should be seen a significant move towards meeting the demands of the local communities at the household level (Mbaiwa, 2012).

#### **4.2.4 Reinvestment and Regeneration of Income from CBNRM**

In Botswana, all the local communities involved in CBNRM invest in tourism development in their respective CHAs. The local communities have the rights to reinvest income realized from CBNRM activities into tourism business activities such as lodges, camps, food and beverages (DeGeorge and Reilly, 2008). According to Schuster (2007), CBNRM has changed some of the rural communities from areas of beggars who relied and lived on handouts from the central government and donor support into quite productive rural communities that are moving towards the attainment of more sustainable livelihood. The ploughing back of revenue from ecotourism business activities into good economic activities has become an important element of rural community development. In this regard CBNRM is seen as an important

instrument through which rural economic development is promoted in throughout the country (USAID, 2012). Therefore even though, the discussed social and economic benefits realized by individual household within the community are not a sufficient factor for explaining success in CBNRM, it can be seen that these benefits definitely important for changing the way the participating communities look at natural resources and the role this plays in enhancing their livelihood if it is managed in a sustainable manner (Arntzen, et al. 2007; Mbaiwa, 2012).

#### **4.2.5. Wildlife Management and Conservation in Botswana**

In Botswana, the adoption of CBNRM as a sustainable conservation strategy was driven by several factors which include the threat of extinction of wildlife species due to overexploitation as a result of increased poaching. This move to shift to CBNRM was also caused by the inefficiency of the state to protect wildlife resource base, increased land conflict among the local people living in resource rich areas and wildlife authorities (Mbaiwa, and Stronza, 2010). The realization of economic benefits from CBNRM and increased access to land by the local communities in Botswana has contributed the improvement in attitudes among the local towards wildlife conservation in CHAs (Arntzen, 2007). In Botswana wildlife conservation in CHAs where CBNRM is implemented is strengthen by the government through the imposition of specific requirements that are followed by all the CTs. For instance, CTs throughout the country are required embrace wildlife conservation goals in their CTs' constitutions. In this regard, CTs formulate rules, regulations and pursue practices aimed at achieving conservation goals in their CHAs.

Community escort guides are employed by CBOs through the country to monitor wild animals, their population and also check for the existence of rare of species. Furthermore, all CTs are expected to develop and produce management plans in which they are supposed to categorically state how natural resource management will be carried out in their respective CHAs (Mbaiwa, 2013). The government of Botswana also requires that all local communities through their CTs produce and present annual reports about how natural resource management was conducted in their respective CHAs every year. The CTs are supposed to present these reports before the DWNP produce their yearly wildlife quotas (Mbaiwa, 2011).

In order to meet the requirements set by the government, many of the CTs have employed escort tour guides to ensure proper management of wildlife resources in CHAs. These tour guides have the responsibility to patrol CHAs and to also enforce agreed upon rules and

regulations on wildlife management and conservation. They also provide escort services safari operators and members of the local communities during hunting in CHAs (Mugabe et al. 2005). Furthermore, even though the management of wildlife resources in Botswana remains the preserve of the central government, the local people are given significant access and user rights to wildlife resources through a well-defined quota system. In this regard, the local communities in Botswana are given some authority over wildlife resources after they are allocated a CHA by the District Land Board. Local communities in Botswana through their respective CTs are given the rights to sell their quotas to safari companies. Wild animals such as Impalas and Springbok are hunted by the local communities themselves to sustain their livelihood (Martin, 2009).

The utilization of wildlife resources by CBOs especially in the Okavango and Chobe areas for the purpose of tourism through CBNRM has contributed to improved livelihood and enhanced the attitudes of the local communities towards wildlife conservation (Mbaiwa, 2010). This has been demonstrated by the desire and willingness of the local people to accept the hunting of wild animals through a quota system. Under a quota system the DWNP decides on the number of wild animals to be hunted by the local communities every year. The allocation of wildlife quotas based on the number of wildlife species in various CHAs helps to preserve wildlife and enhance its sustainability (Collins and Snel, 2008).

In addition, even though there is not enough evidence regarding the impact of CBNRM on wildlife population, there are indications that the conservation of wildlife resources in areas where CBNRM has been implemented has improved. There has been a reduction in wildlife poaching, increased appreciation of the value of wildlife among the communities and improved relationships between the DWNP anti-poaching unit and other wildlife officers. There is however still not enough quantitative data available on wildlife in respective CHAs that can be used to demonstrate the impact of CBNRM on wildlife species and their population (Mbaiwa, 2013). A recent report by Chase (2012), reported that wildlife count in the Northern part Botswana has improved. The report also established 11 out of 14 wildlife species counted in Ngamiland District which included giraffe, wild beast, zebra and lechwe had reduced by 61% between 1996 and 2010 reflecting an average drop of 10% every year. This survey also established that the population of elephants in northern Botswana had remained stable at around 130000 heads. While other wildlife species such as Ostrich were increasing in number in Chobe National Park areas.

#### **4.2.6 Management Oriented Monitoring Systems (MOMs)**

With respect to monitoring and keeping of balance of the wildlife resource base, the adoption and implementation of wildlife monitoring systems such the Management Oriented Monitoring System (MOMs) has been a key element in the development of CBNRM in Botswana. MOMs is a management system that is used in the collection of resource data which is valuable when it comes to monitoring wildlife resources in CHAs and other wildlife management areas. MOMs uses community participation instead of conventional scientific methods of monitoring which is usually costly as it requires advanced technological equipment and highly skilled expertise. In Botswana the Department of Wildlife and National Parks trains the local communities living in controlled hunting areas and teach them how to use MOMs in gathering data on game sightings, problem animals, rare species, dead and injured animals and village mapping (Mbaiwa, 2013).

MOMs also include the use of event books and record cards for recording observation on wild animals. Different record cards are used to record wildlife sightings during patrols, rare and endangered species, problem animals, mortalities, game meat harvest, distribution and trophy hunting. The information recorded on these cards includes date of observations, species, geographical positioning system coordinates (GPS) of the location where the observation was made. They also show information regarding the number of wild animals and birds (Mandota, 2011). The implementation of MOMs and the employment of tour guides by all CBOs is among the significant achievements of community based wildlife management and conservation in Botswana. For instance, an evaluation audit of 2012 conducted by the DWNP involving a total of 24 stations in CHAs, 10 problem animal control stations and 4 CBOs showed that the CBOs which had applied MOMs had maintained high standard records. The information gathered through MOMs is used by CBOs to provide guidance on how problem animals can be controlled. It is also used as supporting evidence when CBOs request for hunting quotas (Mbaiwa, 2013).

Additionally, escort guides under the pay roll of CBOs play a significant role in CBNRM in Botswana. For example just in 2012 alone, a total of 14 CTs had employed a total number of 111 escort guides. All these were employed for the purpose of combating wildlife poaching in CHAs and also ensuring compliance with the CBOs hunting regulations. They even escort hunters during hunting safaris and also monitor the activities of tourism companies such as photographic tourism and trophy hunting. They also record number of wild animals killed or

seen at a specific location in their CHAs. Additionally they are responsible also for apprehending poachers and handing them over to the law enforcement authorities such as the police. All these efforts clearly demonstrate the important role that the local communities have played in so far as wildlife management and conservation is concerned in Botswana (Mbaiwa, 2012).

### **4.3.0 Historical Context of Wildlife Management and Conservation in Zambia**

#### **4.3.1 Pre-Colonial Period**

Before the advent of western colonialism, the management and use of natural resources was based on a centralized traditional system. All natural resources were owned and controlled by traditional rules, norms and practices which were followed and strictly communicated through clans, families and traditional leadership. The communities formulated and enforced the rules and norms regarding wildlife use and preservation as a whole in order to promote strict compliance. As a result, these traditional systems, norms, practices and values sustained the use of natural resources and kept them balance (De George and Reily, 2008). Local traditional leaders also allocated various pieces of land for use by the local people for various purposes which included conservation. Nevertheless, British colonial government stripped off the indigenous communities of their rights and responsibilities over natural resources (Lewis et al. 2008).

#### **4.3.2 Colonial Period**

During this period, the British colonial government established a centralized regime for natural resource management and conservation. Natural resource ownership and management rights were taken away from the traditional chiefs. All the powers and authority for natural resource management became centralized through the creation of protected resource management areas, game reserves and controlled hunting areas (Simasiku, et al. 2008). National parks and game reserves were established in designated wildlife resource rich areas. The local people were also displaced from their lands and lost ownership rights to natural resources (Brockington and Igoe, 2006). In 1925, the British colonial government enacted the first law called the Game Ordinance. This legislation provided for the establishment of the first game reserves in 1950, the Luangwa Game Reserve and the Kafue Game Reserve and many more that followed. Additionally, the British colonial government adopted the

ministerial policy which provided guidelines for the establishment of game reserves and utilization of wildlife resources.

#### **4.3.3 Post-Colonial Period**

When Zambia gained its independence from Britain in 1964, the post-colonial government decided to continue with the same colonial policies for natural resource management and conservation. Many policy amendments were made to provide for the control and regulations of areas designated as protected areas. In 1968, the National Parks and Wildlife Act No.57 was adopted. This legislation gave powers to the Republican President to declare any area with a vast number of wildlife resources as a national park (Jackman, 2000). This Act also supported the establishment of two separate categories of protected areas namely the game management areas and national parks. These categories of protected areas were further supported by the adoption of legal instruments such as the Game Management Area Declaration Order of 1971, statutory instrument No.44 of 1972 and the National Parks Declaration Order of 1972. Following the adoption of these three legal documents all game reserves were transformed into national parks. The adoption and implementation of all these legislations entailed full nationalization of natural resource management and conservation. The local people were not recognized under these laws and were displaced from their lands and lost control over natural resources which they have previously collectively owned and controlled through the traditional natural resource governance regime (Siamundele, 2011).

#### **4.3.4 The Emergence of CBNRM in Zambia**

In Zambia, CBNRM originated within the wildlife sector and subsequently other sectors such as the fisheries, forest and agriculture followed through the adoption of the concept. During the colonial and post-colonial era, the responsibility to manage natural resources was taken away from the traditional authorities by both the colonial government and the post-colonial Zambian government (Mbewe et.al 2005; Molsa, 2009). For instance, in the fisheries and wildlife sector, where traditional leaders administered access-regulating mechanisms were largely replaced by a properly regulated natural resource governance regime introduced by the colonial government and this was extended after independence by the post-colonial government. This made community participation in natural resource management obsolete and non-existent. They also lost out as they stopped realizing economic benefits which accrued to them when natural resources were under their control and stewardship (Jackman, 1998). This created a number of problems which ranged from increased wildlife poaching and

overexploitation exacerbated by inadequate logistical allocation and lack of enforcement of wildlife laws and regulations. All these problems provided an impetus for the rise of CBNRM as an alternative response to the fortress conservation model introduced by the British colonial state and largely contributed to the depletion of biodiversity in Zambia between the 1970s and 1980s (Lewis et al. 1990).

The first CBNRM Programme in Zambia started with the implementation of the Administrative Management Design for Game Management Areas (ADMADE) in 1987. The foundation and emergence of CBNRM in Zambia can also be attributed to the Joint Lupande Research Project (1979-1984) which was initiated by the New York Zoological Society and the National Parks and Wildlife Services (NPWS). This project focused on the management of elephants and was conducted in an area largely occupied by the local people in the Lupande Game Management Area. The findings from this project highlighted the importance of community involvement in natural resource management. The local people were found to possess adequate and detailed knowledge of their tribal land, its flora and fauna and routes used by poachers to gain access to wildlife resources in their chiefdom (Mwape, 2003).

Based on the success recorded in the 1987 in the Lupande Game Management Area, revenue sharing schemes were developed and extended to 8 additional GMAs in Zambia and later on ADMADE was implemented in 26 more GMAs (Hachileka, 1999). In new areas where ADMADE was implemented, revenue sharing from wildlife hunting provided a new hope for the local communities in terms of improved livelihood. Income generated from wildlife tourism and shared to the local communities was supposed to cover for resource management such recruitment of local community scouts and other management costs such as meetings. Rural development projected such building of clinics and schools were also going to be undertaken by the local people with the same revenue. The communities had also the authority to decide on which development project to undertake after the money was distributed to them (Child, 2009).

The main objectives of ADMADE were to provide a self-sustained management Programme for long term protection of wildlife resources in GMAs and also develop an improved and sustainable basis for supporting local community development projects. It was also aimed at fostering a closer and more cooperative relationship between NPWS and the local

communities in wildlife management and conservation and also to earn foreign exchange from wildlife resource for the state treasury (Jones, 2007).

#### **4.3.5 Policy and Legislative Framework for CBNRM in Zambia**

Since the beginning of the 1990s, the government of Zambia embarked extensive reforms of its environmental policies and laws. This has resulted in the development and adoption of new legislations and policies, in particular wildlife policy of 1998, the Zambia Wildlife Act of 1998 and the national policy on the environment of 2007.

#### **4.3.6 The Wildlife Policy of 1998**

This policy was adopted in 1998 by the National Parks and Wildlife Services (NPWS) Department, under the Ministry of Tourism and Arts. This policy acknowledges the unique social, cultural and economic value that natural resources such as wildlife has and how such resources should be used and managed in a sustainable manner for the purpose promoting tourism and economic development in the country. It also provides general guidelines regarding how tourism related activities in national parks and protected game management areas should be carried out, including the conditions for the provision of tourism services and the fees to be charged on such services. This policy also recognizes the importance of community support and involvement in the management of wildlife resources throughout the country. It clearly states that in any planning process, the local communities should be given the chance to raise their concerns and ideas regarding how they think wildlife resources should be managed and conserved in national parks. In this regard community participation and support in the management of wildlife resources is done through community based organization known as Community Resource Boards (CRBs). The wildlife policy of 1998 called for the creation of Integrated Resource Development Boards (IRDBs) now known as Community Resource Boards (CRBs) (GRZ, 1998). According to the guidelines of this policy, the local people living in areas adjacent to protected areas are encouraged to register their CBOs with the Zambia Wildlife Authorities (ZAWA) (Simasiku et al. 2008).

The Wildlife Policy of 1998 further states that the management of all CBOs established to enhance the management and utilization wildlife in game parks and areas outside national parks should be done through democratically elected local community representatives. However, the day to day running of CBOs is done through the secretariat which is chaired by a traditional chief. This policy also stipulates that, Zambia Wildlife Authority should work with all the registered and help them develop strategies for community based wildlife



conservation. ZAWA is also required to assist in developing management plans for all registered CBOs through a participatory planning process that meets the local conditions of the participating communities (Child et al. 2010).

Additionally, this policy requires that all CBOs hold their meetings in a democratic manner in which all decisions are reached through a consensus and meeting deliberations are recorded in form of minutes. ZAWA and other stakeholders such as NGOs are represented on these meetings and are expected to offer technical support aimed at ensuring that CBOs adopt informed decisions regarding the management, use and conservation of wildlife resources. The Wildlife Act of 1998 also employs this policy to facilitate and support community participation. However, this policy does not refer to access rights to resources and does not state how the benefits generated from wildlife conservation and utilization should be shared with the local communities living in open areas outside GMAs and national parks (Nyirenda, 2010).

#### **4.3.7 The Zambia Wildlife Act of 1998**

The Zambia Wildlife Act of 1998 replaced the previous Wildlife Act of 1991. This Act created ZAWA a regulatory state institution established to provide control and management of wildlife in game management areas and national parks. This institution was also created to promote and enhance the provision of benefits from GMAs to the local communities, protect and conserve wildlife resources and also support the implementation international wildlife treaties such as CITES to which Zambia is signatory (ZAWA, 2009).

This Act also makes it clear that the ownership of every wild animal in national parks, GMAs and outside areas in the country is vested in the republican president on behalf all the Zambians citizens. This Act also empowers ZAWA to exercise control over all wildlife resources and bird sanctuaries in national parks and GMAs. It further states that ZAWA should work in collaboration with the local communities and share with them the management responsibility of wildlife resources in GMAs. Additionally, this Act calls for the promotion of economic and social wellbeing of the local people in these areas. The Act further provides for control to entry and residence of any person in national parks and sets out regulations regarding the prevention of hunting in national parks without a hunting license or permit (GRZ, 1998). The director of ZAWA is responsible for issuing of hunting licenses of wild animals after sufficiently determining that the reasons for hunting certain animals are sufficiently justifiable. The Act also prohibits activities such as killing of or injuring of wild

animals, possession of banned weapons such as snares in national game parks (Mupeta, 2012).

#### **4.3.8 The National Policy on the Environment (CBNRM Policy of 2007)**

The adoption of this policy in 2007 was a major milestone in the development of CBNRM in Zambia. The main objective of this policy is create an enabling environment for the management and conservation of wildlife resources and other ecosystems in areas designated as protected areas in a way that promotes sustainable use, protection and reduction in human-wildlife conflict (GRZ, 2007). This policy is informed by the principle that the local people in community should have equitable and fair access to benefits from tourism and conservation programmes and that income generated from sustainable use of wildlife resources should be fairly distributed to the participation local communities (DeGeorge and Reilly, 2009).

#### **4.4.0 Nature of Devolution in the Management of Wildlife Resources in Zambia**

In Zambia, the first community based wildlife management programme (ADMADE) had representation from the local community in the form of Sub-Authority Committees (SACs). This was the most important political structure established for managing and determining the use of wildlife resources in GMAs. In the beginning a lot of power and authority rested in the hands of traditional chiefs. However, the local chiefs abused this authority over wildlife resources for their own selfish reasons instead of spearheading and facilitating community support and participation in the management and conservation of wildlife resources. Community participation was in this case hindered and sabotaged by the local level village committees under the control of traditional chiefs and close relations (DSI, 2008).

#### **4.4.1 Organisation of Community Resources Boards**

In Zambia, traditional chiefs are still powerful and influential in the decision making process regarding the management of wildlife resources compared to Botswana (Nkanta and Breen, 2010). For instance, wildlife in some GMAs at the district level is re managed by the traditional leaders. GMAs in Mumbwa district in central province of Zambia, has three sub-authorities under the leadership of three local chiefs. There also about 6 of such structures in the Lupande GMAs. With the establishment of Community Resource Boards where they now regarded as chairmen rather executive members, traditional chiefs feel threatened and see this has deliberate move to strip them of their powers over land and wildlife resources (CRBSs) (Shackleton et al. 2010).

Currently, the participation of the local communities in the management of wildlife resources is done through locally established CBOs in Zambia. In Zambia all local communities intending to establish CBOs are expected to meet the requirements as stipulated in the wildlife Act of 1998. Firstly the local communities are required to express shared and common interest in wildlife resources in their respective areas under a defined chiefdom. The local communities are also expected to democratically elect their local representatives in CRBs. CRBs are also assisted by village representatives in the form of village action groups (VAG). Nevertheless, even with these newly established CBOs traditional chiefs still have power to nominate two representatives and these appointments are done through handpicking of close relations at the village level (Mupeta, 2012).

#### **4.4.2 Decision Making Over Wildlife Resources Management**

With respect to the management of wildlife resources in GMAs, state institutions in particular ZAWA, still retain most of the decision making authority and responsibility over wildlife resources. The local communities through their respective CRBs are only recipients of directives from ZAWA with regard to management plans for wildlife resources in GMAs. CRBs do not even have the authority to decide how revenue from wildlife tourism and conservation should be shared or redistributed to the local communities. Furthermore, wildlife quota setting, policing and licensing still remains the preserve of ZAWA. The local communities' input in all this is still minimal as they are only required to give comments of approval. On paper the local communities residing in GMAs in Zambia share the responsibility to co-manage wildlife resources in GMAs with ZAWA but practically speaking do not possess formal decision making authority over the utilization and conservation of wildlife resources in their respective areas. This monopoly in decision making authority by ZAWA has rendered the role of community participation in wildlife management and preservation insignificant and non-existent (Anderson, and Mehta, 2013).

The wildlife legislation of 1998 which makes provisions for the establishment of local institutional structures has also largely failed to enhance community participation in the management of wildlife. According to Jones and Erdman (2013), devolution of wildlife resource governance in Zambia to the local communities is still inadequate. The wildlife Act of 1998 does not clearly define the user rights for the local communities since ZAWA still retains the responsibility to design management activities and make final decisions regarding wildlife resource management. For instance, decisions regarding whether hunting by both

safari companies and the local people should be allowed to continue for a particular year and also the number of animals to be hunted in a particular year are still made by ZAWA.

The wildlife Act of 1998 also only makes provisions for CRBs to have co-management responsibilities in GMAs and Open Access Areas (OAAs) but not in national parks. The CRBs do not also possess legal rights over natural resources other than wildlife such as land. There is also confusion with regard to the status of CRBs in legislations (DSI, 2008). CRBs are not corporate entities but instead a board of elected village representatives under the wildlife Act of 1998. As a consequence, CRBs cannot own land or enter into a partnership or joint ventures with private safari companies in their respective GMAs. CRBs cannot also own land and develop their own tourism infrastructure like the way it is with CTs in Botswana (Dixey, 2005).

Additionally, almost all the ministers for tourism under successive governments for instance, have introduced a ban on local resident hunting and safari hunting and have in most cases interfered with the awarding of hunting licenses and tenders to private safari companies. For example in 2002, the minister of tourism under the Movement for Multiparty Democracy (MMD) government cancelled all the tenders given to safari companies by legally established committees, consisting of ZAWA, Zambia National Tender Board (ZNTB) and representatives from the local communities, traditional chiefs. He administratively awarded the tenders and concessions by himself instead. Similarly in 2012, when the Patriotic Front (PF) Party took over power, the newly appointed minister of tourism also took a unilateral decision and banned both local resident and safari hunting, activities from which the local communities are supposed to generate some benefits. Since then only the ban on safari hunting was lifted in 2014 while local resident hunting still remains effectively banned (Kilozizo and Kontinen, 2015).

In Zambia, communal land is also still owned by the state. The Land Act of 1995 was adopted to ensure the security of land tenure for all land owners and provide for the preservation of traditional customary land for leaseholders. Nevertheless, this legislation has serious implications for landholders who cannot manage to go through the required formal procedure to obtain official documents to prove their ownership of land. As a consequence, the granting of rights over land and wildlife resources in Zambia still remain highly centralized and has largely been affected by political, bureaucratic control and manipulations leading to loss of

revenue and other associated benefits by the local communities. This situation has been worsened by undue influence and resistance coming from stakeholders with vested interests (Mupeta, 2012).

Most of the local community interests are captured by the local elite in particular traditional chiefs and state officials and players from the private sector. The government has been reluctant in this case to completely devolve the power and authority despite having adopted several policies and legislations that makes provisions for co-management of wildlife resources. The rhetoric of community participation and empowerment in this case is not matched with the government's political commitment to promote and facilitate the devolution of authority to manage wildlife resources to the local communities in residing in GMAs (DSI, 2008).

In light of the above challenges, the participation of local communities through their respective CRBs has recorded few positive effects. Firstly, it has at least provided a platform for local communities to have a little say in the management of natural resources and improve their livelihood. However, their performance has been less satisfactory as a result of mismanagement of revenue generated from wildlife tourism and conservation which is supposed to be redistributed to their respective local communities. The distribution of income generated from the utilization of wildlife resources through activities such as safari hunting and tourism concessions first goes to ZAWA before it can be redistributed to CRBs (Nyirenda, 2010). This income also takes time to reach actual local communities and the distribution process is not transparent. This has been worsened by lack of accountability and transparency in the administration of revenue and also by undue influence by the local traditional chiefs. This revenue sharing framework threatens the potential of CBNRM development and the management of wildlife resources in Zambia (Jones and Erdman, 2013).

Furthermore, CRBs in Zambia also lack the capacity to their execute functions independently. No single CRB in Zambia has the power and authority to negotiate agreements with private tourism companies like it the case in other countries like Botswana. CRBs in Zambia heavily rely on ZAWA for technical support especially when it comes to drafting wildlife management plans for their respective GMAs. As a consequence, the capacity to run CRBs is systemically weak or non-existent in most GMAs in Zambia. Employment of qualified personnel to run and manage CRBs in Zambia is also a challenge because they do not have

sufficient sources of revenue to accommodate salaries (Simasiku et al. 2009). In addition, CRBs are also assisted financially by a few stakeholders and do not receive any allocations from the central government budget. Currently, revenue assistance for about 6 GMAs comes from DANIDA, NORAD and UNDP.

#### **4.4.3 Distribution of Benefits from Wildlife Utilization in Zambia**

The main source of revenue in community based wildlife management is income that is generated from animal and concession fees. Animal revenues come from fees collected through issuance of hunting licenses and this differs from animal to animal depending on their value. On the other hand concession fees constitutes income generated based on the value of a designated hunting area. These hunting areas are given to safari hunting companies with hunting licenses after signing a Tripartite Hunting Agreement (THA) with ZAWA and the CBRs. Afterwards these concession fees are paid by safari hunting companies on an annual basis for the time entire time period covered by the THA which usually ranges from 10 to 15 years (Animal fees are shared as follows: 5% of the total revenue goes to chairmen of CRBs (Traditional chiefs); 45% goes to the CRBs in the form of community fund while the remaining 50% of the revenue is retained by ZAWA in the form of a wildlife conservation fund. On the other hand, concession fees are shared as follows; 5% goes to traditional chiefs as chairmen of CRBs, 15% is given to the CRBs in the form of a local community fund while 80% of the revenue is retained by ZAWA in the form of a wildlife conservation fund (Nyirenda, 2010).

#### **4.4.4 Benefits to the community**

Furthermore, 45% of the little income received by the local community from animal fees and hunting concessions is allocated as follows; 45% is of this income goes wildlife resource management which includes escort services and resource protection; 35% of the revenue is allocated to rural community development projects such as the construction of feeder roads, community schools and water boreholes. While the remaining 20% of the revenue realized from wildlife resource utilization is allocated to carter for the administrative activities of CRBs (Mupeta, 2012).

Since 2005 a total of 41 hunting concessions have been signed within GMAs and the local communities have benefited through employment as village scouts. These village scouts are employed by CRBs to help ZAWA with monitoring and protection of wildlife. These village scouts have the duty and responsibility to watch and monitor wildlife animals and also to

assess damage to crops caused by wild animals such as elephants. A total of 66 out of 72 CRBs employed about 1012 village scouts between 2012 and 2013 in 33 out of 36 GMAs throughout the country (Jones and Erdman, 2013). In 2014 an addition of 79 support staff were employed by CRBs across the Country. The local communities have also received benefits in the form of social amenities from different rural development projects financed by income generated from wildlife utilization and tourism. These include water boreholes, clinics, feeder roads and measures aimed at reducing crop damage by wildlife such as chili pepper fences (Kilozizo and Kontinen, 2015).

#### **4.4.5 Benefits from Private Sector Partnerships**

In Zambia, the local communities benefit less from private sector engagement in the wildlife sector. For instance, the local community partnerships with the private safari companies have realized fewer benefits in terms of employment creation for the local communities. This has largely been due to the fact that local communities themselves do not possess the rights to negotiate and sign contracts with the private safari companies since they do not also have the rights to own land (Shackleton et al. 2010).

In Zambia, safari companies directly work with ZAWA after they are awarded a tender by the Zambia National Tender Board (ZNTB). Only the traditional leaders are allowed to participate on the selection panel. The traditional authorities also maintain the authority over giving communally owned land to tourism or safari operating companies. However, these private safari operators are not under any obligations to share the money they make from trophy hunting and photographic tourism with the local communities except in circumstances where traditional chiefs are given some gifts as a token of appreciation for awarding them the land. As a consequence, the private sector has played a significant role in shifting the balance of power and control away from the local communities in wildlife management (Shackleton and Campbell, 2012).

However, the local communities have always demanded for direct benefits from wildlife utilization such as the provision of fertilizers and household dividends but the state officials block this from happening. Benefit sharing is also affected by the increasing population in the country. For instance, in most GMAs, the population of the people who expect to benefit from wildlife utilization is much bigger compared to the population of the actual communities affected by wildlife. As a result the benefits are diluted and have in most cases been outweighed by the costs incurred by individual households residing in GMAs. The local

people are not always compensated for property and crop damage caused by wild animals such as elephants. This has provided little incentives for Community based wildlife conservation and illegal wildlife hunting in GMAs in Zambia is still prevalent and on a high level (Mulobezi GMA Report, 2012).

#### **4.4.6 Wildlife Management and Conservation in Zambia**

Just like in the case of Botswana, there is no quantitative evidence demonstrating the impact of CBNRM on wildlife conservation in Zambia. Since 2008, more than half of wildlife populations in GMAs have declined due to increased levels of wildlife poaching. In Zambia, this decline in wildlife resources has also been attributed to partial or lack of CBNRM implementation where user rights are not clearly defined and the expected benefits from wildlife utilization and conservation are not properly distributed and sometimes difficult to even get (Simasiku, et al. 2008). Jones and Erdman (2013), also reports that the natural environment available to provide support for wildlife in GMAs has shrunk throughout the country due to increased human habitation, claims to traditional land, uncoordinated wildlife planning by state departments and increased cultivation by the local people.

Nevertheless, the population of some wild animals such elephants have shown signs of recovery in some GMAs especially those located in the Luangwa Valley in the eastern part of Zambia. The Luangwa Valley was initially the main focus of CBNRM in Zambia. Currently the Luangwa Game Management System hosts the majority of elephants in the country which now stands at 18,634. This figure constitutes 72% of the elephant population in Zambia. This is regarded as a significant increase in the population of elephants from the previously estimated 9000 in the early 1980s. However; these numbers should be interpreted with caution as there is no evidence that currently links this increase to the application of CBNRM in the Luangwa Valley. There could be other contributing factors such as disease and predation that might have an effect on the population of wildlife in GMAs but this is beyond the scope of this thesis (Sichilongo et al. 2013).

Furthermore, different numbers of wildlife species are hunted and killed in GMAs through the use of what are known as special licenses. These licenses are discretionary given to private individuals and safari operators by the minister for the tourism sector. These special licenses minimize the potential earning and value of wild animals in protected areas. They also minimize conservation incentives by the local communities who are only allowed to kill and utilize wild animals for the purpose of cultural and traditional ceremonies. As a result wildlife



resources are subjected to high levels of poaching and non-resident hunting. Local communities themselves contribute further to illegal wildlife hunting using dangerous methods of killing such as snares and traps. This has been attributed to free riding mentality even when the benefits from CBNRM are evident the local people still have not refrained from poaching (CITE, 2010). Finally, wildlife monitoring and surveillance activities have not been fully developed due to lack of funding and investment in management systems. There is also lack of well-organized management systems such as MOMs to monitor the population of wildlife species (Becker et al. 2013).

## **5. DISCUSSION AND ANALYSIS OF RESULTS**

This section of the thesis provides a comparative analysis of CBNRM in both Botswana and Zambia to provide a concrete answer to the main research question of this study. This analysis is entirely based on wildlife policies and legislations adopted by the two countries and their actual application in the implementation of CBNRM. This study has demonstrated that even though Botswana and Zambia developed similar policies and legislations and understanding of the core foundations of CBNRM, the two countries have taken different trajectories in the development and implementation of CBNRM in the last 25 years. In this case, the differences in terms of the actual outcome in CBNRM in both Botswana and Zambia, have been explained from the point of view of political (institutional), economic and social and ecological context of the two countries.

### **5.2 Local Community Participation**

To begin with the ownership and governance aspect of natural resources management has played a significant role in the flourishing of CBNRM in Botswana as compared to Zambia. In Botswana, the participation of the local communities in natural resource management is encouraged through legally established community based organizations (CBOs) known as Community Trusts (CTs). These CTs provide leadership to locally established and controlled institutions of CBNRM. CTs also provide coordination in tourism activities on behalf of their respective communities. The functioning of these CTs is guided by locally formulated constitutions which dictate on issues relating to membership, duties and responsibilities and the organization of each CT. The CTs in Botswana have been successful in managing wildlife resources in Botswana as a result of their entrenched legal and strong legal identity and democratic tenets (Mbaiwa, 2011).

Similarly, in Zambia the participation of the local communities in the Co-management of wildlife resources is exercised through locally established CBOs known as Community Resource Board (CRBs). In Zambia all local communities intending to establish CBOs are expected to meet the requirements as stipulated in the wildlife Act of 1998. Firstly the local communities are required to express shared and common interest in wildlife resources in their respective areas under a defined chiefdom (Anne and Daulos, 2014). The local communities are also expected democratically elect their local representatives in CRBs. Traditional authority is represented by a local chief. CRBs are also assisted by village representatives in the form of village action groups (VAGs). In Zambia, traditional chiefs play powerful and influential role in decision making regarding the management of wildlife resources compared to Botswana (Mupeta, 2012).

### **5.3 Legal rights**

However unlike the CTs in Botswana, CRBs in Zambia are not corporate legal entities and do not also possess legal rights over natural resources such as wildlife and land. There is also confusion with regard to the status of CRBs in legislations (DSI, 2008). As a consequence CRBs cannot own land or enter into a partnership or joint ventures with private safari companies in their respective GMAs. CRBs cannot also own land and develop their own tourism infrastructure like the way it is with CTs in Botswana (Dixey, 2005).

### **5.4 Organisation of CBOs**

In Botswana devolution and effective governance of natural resource has been realized through the establishment of effective local institutional arrangements called Community Trusts. CBOs also allow the local communities they represent participate and realize benefits from tourism activities in their own areas. CTs also provide local leadership and decide on how land and wildlife resources should be used in their designated Chas. The decentralization of rights and custodianship of wildlife resources to the participating communities has been achieved through the development of effective policies and legislations and a quota system that allows the communities to obtain exclusive rights over land and rights to sublease their land to private safari companies. Through collective actions, the local people in Botswana have established these local institutions in order to ensure community participation in the management of wildlife resources and tourism development. In Zambia this has not been as wildlife quota setting, policing and licensing still remains the preserve of ZAWA. On paper the local communities residing in GMAs in Zambia are supposed to share the responsibility to

co-manage wildlife resources in GMAs with ZAWA but in practice do not possess formal decision making authority over the utilization and conservation of wildlife resources in their respective areas.

### **5.5 Decision Making Over Wildlife Resources**

Co-management in the management of natural resources particularly wildlife has not been achieved in Zambia. This is largely due the fact that state institutions such as ZAWA still retain most of the decision making authority and responsibility over wildlife resources. The local communities through their respective CRBs are only recipients of directives from ZAWA with regard to management plans for wildlife resources in GMAs. CRBs do not even have the authority to decide how revenue from wildlife tourism and conservation should be shared or redistributed to the local communities. This monopoly in decision making authority by ZAWA has rendered the role of community participation in wildlife management and preservation insignificant and non-existent (Anderson and Mehta, 2013). The monopoly in decision making by the state regulatory institution in Zambia largely explains why Zambia has relatively performed badly than Botswana CBNRM in the last 25 years. The finding of this study all point to decentralization as the major determinant factor in the successful implementation of CBNRM. The findings of this study also coincides with previous research findings in other countries where devolution of decision making powers and responsibility over natural resources from the state to locally established institution was found to predict success and where lack of it leads to failure in CBNRM (Rozemeijer, 2003; Salam, et al. 2006; Bawa, 2007).

### **5.6 Collective Ownership of Natural Resources**

In terms of ownership of natural resources in Botswana, the government owns all the natural resources just like it is in Zambia. But the only difference that exists is that in Botswana, the local communities still have the chance to obtain wildlife quotas in their respective CHAs given to them through various legislative and policy guidelines (Mbaiwa, 2011). In Botswana, the local communities are also given rights to sell their hunting quotas and sub-lease the land they acquire to safari operators. Through these leases the local communities are given management authority and user rights in their designated CHAs during the stipulated time period (Collomb et al. 2010).

In Botswana, the local communities also have the rights to enter into partnership with local safari companies in the ownership and management of tourism which is not the case in

Zambia. The most striking reason for failure of CBNRM in GMAs in Zambia lies in the failure of wildlife legislation and policies to recognize the significance of the granting the local communities the rights to land and wildlife resources. The wildlife Act of 1998 does not clearly define the user rights for the local communities since ZAWA still retains the responsibility to design management activities and make final decisions regarding wildlife resource management. The case is different with Botswana where the local communities are given exclusive rights to extract and utilize natural resources on communal land as long as they possess a permit or license to do so. In Botswana the local communities have access and commercialization rights over wildlife resources and other natural resources through the lease agreement arrangements (Anderson and Mehta, 2013).

### **5.7 Distribution of Benefits**

With regard decisions over the distribution of income and other benefits CBOs in Botswana previously retained all the revenue realized from wildlife tourism and made all the decisions regarding the distribution and use of it. However, the CBNRM policy of 2007 reversed this as it requires CBOs to return 65% of all the revenue generated from wildlife tourism to a national trust fund. All the revenue deposited in this trust fund is used to support other CBOs through the country but the CTs are allowed to apply back for it. In Zambia on the other hand, ZAWA retains all the decision making authority over the distribution of income generated from wildlife utilization. In Botswana benefits realized from CBNRM can be put into three main categories and these include individual benefits, community benefits and national Benefits (Arntzen, 2007). In Botswana, the local communities have benefited from CBNRM through a number of ways which range from employment creation, house hold dividends such as cash and game meat benefits, social services and infrastructural development. However, employment is one of the key benefits that the participating local communities receive from CBNRM projects.

Additionally, in Botswana the local communities also generate a lot of revenue from different sources which include revenue from photographic tourism such as game drives, food and beverages and accommodation through lodges and game camps, land rentals, production of art crafts, walking safari, meat sales, donations and vehicles for hire. The findings of this study coincide with the finding of the study in Ghana, where community participation and equal distribution of benefits and local community empowerment were identified as some of the factors that defined the success of the CBNRM Programme (Sheppard et.al, 2010).

Contrastingly, in Zambia state institutions ZAWA depend so much on revenue generated from wildlife resource utilization. Almost 45-67% of their income comes from trophy hunting from various GMAs (Manning, 2011; Sichilongo et al. 2013). This heavy dependence on revenue from trophy hunting results in conflict of interest, because the state regulatory institution is also a direct beneficiary of revenue generated from wildlife utilization in GMAs. As a consequence, the local communities tend to get less management rights and less revenue. National legislations and policies have not also created an enabling environment for the local communities to conduct or enter into business partnerships directly with the private tourism companies and retain revenue for themselves (Jones, 2007). Transfer of decision making authority over the distribution of revenue from wildlife utilization is a critical success factor for CBNRM. Hence, uneven distribution or non-distribution of agreed upon sharing powers and revenue to the local communities in Zambia shows the persistent dominance of the state in the revenue redistribution process. This has resulted in the exclusion and partial integration of the local people living in GMAs in the distribution of benefits from wildlife management and utilization (Nkata and Breen, 2010). This possess a huge challenge for community participation in CBNRM since ZAWA collects all the revenue and reserves the huge chunk of it while the community wait for a long period of time to get their small share of the revenue.

In Zambia the local communities also benefit less from private sector engagement in the wildlife tourism when compared the benefits the local communities in Botswana realize from private business partnerships with safari operators in their respective CHAs. For instance, the local community partnerships with the private safari companies have realized fewer benefits in terms of employment creation for the local communities. This has largely been due to the fact that local communities themselves do not possess the rights to negotiate and sign contracts with the private safari companies since they do not also have the rights to own land (Shackleton et al. 2010). This study thus demonstrates importance of equal distribution of benefits as one of the complimentary factors determining the success of CBNRM. Of course for benefits from CBNRM to be distributed in a fair manner the local communities need to get involved in deciding the benefits generated from CBNRM are to be allocated (Ipara et al. 2005). This is often works out in situation where the state gives some of its authority and responsibilities for managing wildlife to the local communities as it has been seen in the case of Botswana.

In Botswana the local communities through their respective CTs are able to sub-lease their land and sell their hunting quotas to private safari companies at fee which is paid directly to CTs. The local communities are also able to sign contracts and enter into partnership with private safari operators as shareholders and by so doing they have a stake in whatever amount of income is generated from tourism activities such as trophy hunting and photographic tourism is shared with the community. However, in Zambia safari companies work directly with ZAWA when it comes to obtaining hunting licenses and signing land concessions. In this case, private safari operators are not obliged to share the money they make from trophy hunting and photographic tourism with the local communities except in circumstances where traditional chiefs are given gifts for awarding them the land. This situation has been largely worsened by the communities' lack of ownership over land and the rights to negotiate and sign contracts with the private safari companies (Shackleton et al. 2010). This study therefore, builds on previous research findings which have highlighted the importance of understanding the role of the state, communities, private sector and non-state actors like NGOs if we are to understand and explain the factors that determine the success and failure of CBNRM (Tsing, 2005; Bleike, 2006).

In the case of Zambia, private safari companies have played a critical role in changing the balance of power and control away from the local communities in wildlife management. As a result the incentives for wildlife conservation in Zambia are very weak and poorly designed when compared to Botswana. In Botswana, the local communities through their CTs have the power and authority to determine hunting quotas in their designated CHAs to private Safari companies at a fee. Thus the failure in CBRNRM in Zambia can largely be attributed to the failure of by the government to develop an adequate and clearly defined legal, institutional and policy to fully devolve decision making authority and responsibilities to manage wildlife to the local communities. Lack of devolution of decision making authority and responsibility to manage wildlife to the local community makes it difficult for them to effectively participate in wildlife management and conservation (Shackleton and Campbell, 2012).

The finding of from this study have also shown that lack of decentralization in wildlife resource management in Zambia is associated with challenges related to governance issues such as corruption and lack of political will on the part of the government to relinquish the power and authority over wildlife to the local communities who live within the parameters of protected areas. This point has also been highlighted in the existing literature as one of the

major cause for failure in CBNRM (Anstey et al. 2002). On the other hand, success of CBNRM in Botswana can largely explained from the point of view of effective governance of natural resources through devolution which grants the local communities ownership over land and wildlife resources in CHAs. In this regard, wildlife resources given to CBOs in Botswana through established quota system practically and automatically entails that it belongs to them. This study therefore, demonstrates the importance of decentralization in natural resource management and supports the argument by scholars such as Boggs (2000), who has argued that the management and conservation of natural resources through a top-down approach using state institutions, has been inefficient and ineffective in natural resources conservation in the past.

### **5.8 Wildlife Management and Conservation**

To effectively achieve conservation goals, the government of Botswana through the state regulatory body DWNPs works in collaboration with the local communities involved in CBNRM. In this case, wildlife conservation in CHAs where CBNRM is implemented has been strengthened through the imposition of specific requirements on all the CTs. The DWNPs requires for instance, CTs throughout the country to adopt wildlife conservation goals in their respective constitutions. On the other hand in order to ensure that all CTs involved in CBNRM are accountable and transparent, the government of Botswana requires that all local communities through their CTs produce and present annual reports about how natural resource management was conducted in their respective CHAs every year. On the hand in Zambia, there is little collaboration between the state authorities and the local communities. The participating local communities in have little say on wildlife management and conservation plans. They have merely been reduced to recipients of directives from ZAWA.

The case of Botswana also demonstrates that the success of CBNRM is also partly dependent on the enhanced capacity of the local people. This has been achieved through the adoption of monitoring orientation management systems. In Botswana the Department Wild and National Parks conducts training for the local communities in CHAs and teach them how to use MOMs in gathering valuable information on game sightings, problem animals, rare species, dead and injured animals and village mapping. Local capacity in Botswana has also been enhanced through the employment of escort guide. These escort guides have proved to be effective in

regulating hunting through increased patrols of controlled hunting areas in Botswana (Mbaiwa, 2013).

MOMs in Botswana has proved to be an effective tool for monitoring and maintaining the balance of the wildlife resource base. This is not however the case with Zambia, where government through ZAWA which is state regulatory body claims monopoly over the management and control of wildlife resources throughout the country. With regard to resource monitoring, wildlife monitoring and surveillance activities have not been fully developed in GMAs. This is largely due to lack of funding and investment in well-organized management systems such as MOMs to monitor the population of wildlife species (Becker et al. 2013). The local communities also do not have enough income to employ a sufficient number of escort guides. The existing number of escort guides employed by CRBs in Zambia is insignificant when compared to the number of local people under the pay roll of CTs in Botswana. This study therefore builds on literature arguing that enhanced capacity of the local communities is effective in monitoring and maintaining the balance of natural resources and enforcement of rules, regulations and agreed upon sanction by the community regarding the management, utilization and conservation of natural resources within their vicinity (Du Toit, 2002; Trans, 2006; Holmern, et al. 2007).

Regarding the exact impact of CBRNRM on conservation, this study did not find any quantitative evidence demonstrating the impact of CBNRM on wildlife population in both Botswana and Zambia. However in Botswana, there is indication that the conservation of wildlife resources in the northern part of the country where CBNRM has been implemented has improved. There has been a reduction in wildlife poaching, increased appreciation of the value of wildlife among the communities and improved relationships between the DWNP anti-poaching unit and other wildlife officers. On the other hand in Zambia since 2008, more than half of wildlife populations in GMAs have declined to due to increased levels of wildlife poaching. The natural habitat which provides support for wildlife in GMAs in Zambia has also shrunk throughout the country due to increased human habitation, increased claims to traditional land, uncoordinated wildlife planning by state department (ZAWA) and increased cultivation by the local people.



## 6. CONCLUSION

This study was set out to understand why some African countries succeed in implementing co-management programmes in natural resource management while others fail to do so. To understand and answer this question the impact and success of CBNRM was measured along four main aspects which included ownership (tenure rights and responsibilities), empowerment (devolution), and governance (organisation of CBOs at the local community level) distribution of economic and social benefits and conservation of wildlife resources. On one hand this study has demonstrated the successful case of CBNRM in Botswana. The government of Botswana has walked the talk in its quest to promote CBNRM throughout the country. The study has shown that the success of CBNRM in Botswana has been realized through effective cooperative efforts by the government and the local communities residing in CHAs. The case of Botswana proves the fact that when the local people are given appropriate incentives, authority and ownership over land and wildlife resources, they could effectively organize themselves in managing and preserving wildlife resources. On the other hand, this study has demonstrated why Zambia has been less successful than Botswana in co-management programmes despite having initiated CBNRM at the same time and adopted similar policies and legislation. CBNRM has been less successful in Zambia as compared to Botswana because there is lack of political will to decentralize decision making authority and responsibilities over wildlife management to the local communities. Additionally, less attention has been paid to the development of effective local institutions and formulation of legislations and policies to support local community ownership of natural resources. In the case of Zambia, many problems need to be resolved regarding CBNRM to ensure its success in terms of achieving rural development and conservation goals. Firstly, inconsistencies and lack of clarity in policies and legislations supporting CBNRM should be addressed. Security of tenure rights and responsibilities over land and natural resources need to be ensured. The implementation of CBNRM in Zambia has entirely not been based on the core foundations of CBNRM. The state still retains exclusive centralized control over existing wildlife resources throughout the country. Challenges relating to the provision of appropriate incentives and distribution of benefits from CBNRM need to be also addressed. This could be done through the development of a fair and equitable benefit sharing framework embedded in law and policy. Last but not the least; future research should also attempt to explore more about the local communities' attitudes towards CBNRM in different contexts.

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## APPENDIX: I

### SUMMARY OF RESULTS

Country Cases	Local Ownership	Community Participation/Organisation of CBOs	Social and Economic Benefits	Wildlife Conservation
<b>BOTSWANA</b>	<ul style="list-style-type: none"> <li>Local communities are granted ownership rights over land and wildlife resources through quota system and 15 year lease</li> <li>Local communities have the rights to sub-lease or sell their quotas to private safari companies</li> <li>Local communities can enter into private business partnership and sign contracts with private safari companies</li> <li>Local communities have the rights to establish game ranches in CHAs</li> </ul>	<ul style="list-style-type: none"> <li>Community Participation is encouraged the establishment of Local institutions Known as Community Trusts</li> <li>Everyone above the age of 18 is an automatic member of the CTs</li> <li>CTs are corporate and legally established entities</li> <li>CTs are run by the Board of Trustees democratically elected by the members of the community themselves</li> <li>Functioning of CTs is guided by a locally formulated constitution</li> <li>Traditional authority in CTs is represented by local chiefs who are ex/officio members of the Board of Trustees</li> </ul>	<ul style="list-style-type: none"> <li>Policies and legislations support equitable and fair distribution of direct and indirect from trophy hunting and photographic tourism</li> <li>Local communities retain 35% of all revenue raised from CBNRM and 65 % is put in a national fund but CBOs throughout the country can reapply for these funds</li> <li>Local communities also benefit through jobs that are created by CTs (e.g. game escort guides)</li> <li>Local communities benefit from social amenities and infrastructure such as clinics, water reticulation systems, micro finance loans, funeral grants, bush meat</li> <li>Local communities benefit also from the provision of transport services,</li> </ul>	<ul style="list-style-type: none"> <li>Wildlife populations have stabilized in areas where CBNRM has been implemented though there is currently lack of enough quantitative evidence in this aspect of conservation</li> <li>Poaching levels are also low in CHAs as CTs have employed escort game guides to patrol CHAs to combat illegal hunting of wildlife.</li> <li>Escort guides also accompany local resident hunters and safari hunters on hunting tours</li> <li>Hunting of animal by local people and external resource users with hunting licenses (Hunting quota)</li> </ul>

			<p>computers, TVs, Internet service and better road networks</p> <ul style="list-style-type: none"> <li>Local communities also reinvest the generated into business activities such as lodges, game camps, food and beverages</li> <li>Financial assistance is also provided to the old people, destitute and physically challenged</li> </ul>	<ul style="list-style-type: none"> <li>The local communities are also able to monitor and observe and keep records of wild animals on specific locations using MOMs</li> <li>All land owners are also required to keep records of all killed animals and submit these records to the licensing state authorities</li> </ul>
<b>ZAMBIA</b>	<ul style="list-style-type: none"> <li>Wildlife policies and legislations do not support the devolution user and tenure rights to natural resources such as land and wildlife to the local communities</li> <li>Ownership of land and wildlife in national parks, GMAs and Open Access Areas is still vested in the Republican President on behalf of Zambian citizens</li> <li>ZAWA still retains most of the decision making powers and authority over wildlife management and conservation</li> <li>ZAWA decides how and when hunting should be conducted</li> </ul>	<ul style="list-style-type: none"> <li>Local communities are encouraged to participate in wildlife management through the establishment of CBOs known as Community Resource Boards (CRBs) which are registered with ZAWA</li> <li>CBRs are not autonomous legal or corporate entities but are simply a board of elected village representatives elected by the participating local communities and as result cannot own land or enter into private business activities on their own or with private safari operators</li> <li>Day to day running of CRBs is done through a Secretariat chaired by a local traditional chiefs</li> </ul>	<ul style="list-style-type: none"> <li>The local communities only retain 45% of the income generated from wildlife tourism</li> <li>From concession fees the local communities only receive 15% of the income while 5% goes to the traditional chief and ZAWA retains 80% of the revenue</li> <li>Local communities have benefited less in terms of employment creation as CRBs do not have sufficient sources of revenue to accommodate salaries</li> <li>Only a small number of village scouts are employed by CRBs to help ZAWA with resource monitoring and protection</li> </ul>	<ul style="list-style-type: none"> <li>ZAWA develops management and conservation strategies for CRBs through a participatory process</li> <li>There no enough quantitative evidence demonstrating the impact of CBNRM on wildlife populations</li> <li>The levels of poaching are still high</li> <li>Natural habitat has also shrunk due to increased human settle, claims to customary land, increased cultivation by the local people and uncoordinated wildlife planning</li> <li>Only in GMAs Located</li> </ul>

	<ul style="list-style-type: none"> <li>• ZAWA retains exclusive authority over the redistribution of income generated from wildlife tourism</li> <li>• Quota setting, policing and licensing still remains the preserve of ZAWA</li> <li>• The local communities do not practically possess any formal authority regarding utilization and conservation of wildlife in their respective GMAs</li> </ul>		<ul style="list-style-type: none"> <li>• Communities benefit from social amenities provided through the implementation of various rural development projects financed by their 45% share of revenue( clinics, water bore holes, feeder roads and reduced crop damage through the creation chili pepper fences</li> <li>• Local communities do not benefit from the private sector in as they cannot negotiate contracts or enter into joint ventures with private safari operators.</li> <li>• Safari operators deal directly with ZAWA and are not under any obligations to share their profits with the local communities</li> </ul>	<p>in the Luangwa Valley where the first CBRNM was initiated has recorded positive results in terms of increased and stabilized elephant population</p> <ul style="list-style-type: none"> <li>• There is still lack of effective wildlife management and monitoring systems such as MOMs due to low levels of funding</li> </ul>
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